Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Final
Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT

for

Valero Refining Co. - California
Facility #B2626

November 2003

Facility Address:
3400 East Second Street
Benicia, CA 94510-1097

Mailing Address:
3400 East Second Street
Benicia, CA 94510-1097

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit.

B. Facility Description

General Description of an Oil Refinery:

An oil refinery is an intermediary between crude oil and a refined product. It takes dirty, low-value oil from the ground and distills it under atmospheric pressure into its primary components: gases (light ends), gasolines, kerosene and diesels (middle distillates), heavy distillates, and heavy bottoms. The heavy bottoms go on to a vacuum distillation unit to be distilled again, this time under a vacuum, to salvage any light ends or middle distillates that did not get separated under atmospheric pressure; the heaviest bottoms continue on to a coker or an asphalt plant.

Other product components are processed by downstream units to be cleaned (hydrotreated), cracked (catalytic or hydrocracking), reformed (catalytic reforming), or alkylated (alkylation) to form gasolines and high-octane blending components, or to have sulfur or other impurities removed to make over-the-road diesel (low sulfur) or off-road diesel (higher sulfur). Depending on the process units in a refinery and the crude oil input, an oil refinery can produce a wide range of salable products: many different grades of gasoline and gasoline blend stocks, several grades of diesel, kerosene, jet and aviation fuel, fuel oil, bunker fuels, waxes, solvents, sulfur, coke, asphalt, or chemical plant feedstocks.

A more detailed description of petroleum refinery processes and the resulting air emissions may be found in Chapter 5 of EPA's publication AP-42, Compilation of Air Pollutant Emission Factors. This document may be found at:

http://www.epa.gov/ttn/chief/ap42/ch05/

The principal sources of air emissions from refineries are:

- Combustion units (furnaces, boilers, and cogeneration facilities)
- FCC (Fluidized Catalytic Cracking)
- Storage tanks
- Fugitive emissions from pipe fittings, pumps, and compressors
- Sulfur plants
- Wastewater treatment facilities

Combustion unit emissions are generally controlled through the use of burner technology, steam injection, or selective catalytic reduction. Emissions from the FCCU are controlled through the use of improved catalyst regeneration, CO boilers, electrostatic precipitators, hydrotreating the feed, and use of catalysts to remove impurities. Storage tank emissions are controlled through the use of add on control and or fitting loss control. Fugitive emissions have been controlled through the use of inspection and maintenance frequencies. Sulfur plants are equipped with tail gas units to reduce emissions. Wastewater treatment facilities are controlled by covering units, gasketing covers, and add on controls such as, carbon canisters.

B. Facility Description

Valero Refining – Benicia Fast Facts
-- Produces 10 percent of the clean-burning California Air Resources Board (CARB) gasoline used in California and 25 percent of the CARB used in the San Francisco Bay Area.

-- Total feedstock throughput capacity of 180,000 barrels per day (BPD)

-- Products include CARB gasoline, diesel, jet fuel, fuel oil, residual oil and asphalt

Overview
Built as a grass-roots project in 1969, the Benicia refinery has undergone significant modifications and upgrades over the years. Valero acquired the facility in 2000.

Output
This facility has the ability to process sour crude oils into a high percentage of light products. Approximately 70 percent of the refinery's product slate is CARB gasoline – California's clean-burning fuel. The refinery also has significant asphalt production capabilities and produces 25 percent of the asphalt supply in northern California. Currently, it processes domestic crude both

from the San Joaquin Valley (SJV) in California and from the Alaska North Slope (ANS). Major refinery units include:
-- 135,000-BPD crude distillation unit
-- 77,000-BPD fluid catalytic cracking (FCC) unit
-- 39,500-BPD coker unit
-- 40,000-BPD hydrocracker
-- 40,000-BPD catalytic reformer

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Condition I.J has been added to clarify that the capacity limits shown in Table II-A are enforceable limits.

II. Equipment

This section of the permit lists all permitted and exempt sources. Each permitted source is identified by an S and a number (e.g., S24 or S-24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302. The Permitted sources are shown in Attachment I.

The exempt sources may or may not have a source number. The exempt sources are shown in Attachment II.

The group of exempt sources encompasses any significant sources. Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year. Based on the annual update information for August 1, 2002 through July 31, 2003, there are no significant exempt sources.

All abatement (control) devices that control permitted or exempt sources are listed. This abatement equipment is shown in Attachment III. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in this table but will have an "S" number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an "A" number.

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date:

Source and abatement device lists have been revised since the application was first submitted, because of the removal from service of sources and the permitting of new sources and abatement devices. All new sources have been evaluated in accordance with the District New Source Review regulations.

The following sources have been taken out of service:

S-102	Fixed Roof Tank (water/organics mixture)	
S-130	Sulfur Storage	
S-38	Steam Generator SG-703S-39	Steam Generator SG-2901
S-211	MTBE Process Unit	

The following sources were added:

S-237	Steam Boiler
S-239	Crude/Product dock Sump
S1027	Pentane Rail Car Loading Rack

The following sources were added for the Valero Cogeneration Project (Application #2488/2695):

S-1030	Gas Turbine
S-1031	Heat Recovery Steam Generator
S-1032	Gas Turbine
S-1033	Heat Recovery Steam Generator

The following emergency generators were permitted after losing their exempt status:

S-240	Emergency Diesel Engine for Break Tank Raw Water Pump, (P-2401C)
S-241	Emergency Diesel Engine for Crude Field Firewater Pump, (P-2602)
S-242	Emergency Diesel Engine for Dock Firewater Pump (P-2608B)
S-243	Emergency Diesel Engine for Control Room (DG-5101)

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) listed following the corresponding District Rules. SIP rules are District rules that have been approved by EPA into the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portions of the SIP rule are cited separately after the District rule. The SIP portions will be federally enforceable; the non-SIP versions will not be federally enforceable, unless EPA has approved them through another program
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's

websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Condition Cross-referencing
At the top of each set of permit conditions applicable to a source(s) in Table IV, Valero has also included a unique environmental file number, shown as either 8.1.XXX or 8.2.XXX. Valero's environmental file number cross-references the District's Condition ID# for these same permit conditions, in order to track and facilitate compliance.

Complex Applicability Determinations:

Facility Tanks:

In both Table IV and Table VII, facility tanks have been grouped into several sub-tables such that each sub-table includes a number of tanks which have a common set of requirements. Specific requirements are triggered by various criteria, which include: tank size, tank construction date, vapor pressure of the tank contents, toxicity of the tank contents, tank roof design (floating roof versus fixed roof) and whether or not the tank is vented to a control device. For example, the fewest requirements apply to tanks which are relatively old and therefore are not subject to the federal New Source Performance Standard (NSPS), and which store low-vapor pressure materials and therefore are not subject to District Regulation 8, Rule 5.

COMBUSTION SOURCES UNDER ALTERNATIVE COMPLIANCE PLAN:

Sources S-7, S-20, S-21, S-22, S-23, S-24, S-25, S-26, S-30 through S-33, S-34, S-35, S-40, S-41, S-173 and S-220

The above listed sources are combustion sources that are subject to Regulation 9, Rule 10, because they are located at a refinery and have a rated heat input that is more than 10 MMBTU/hr. Regulation 9 Rule 10 limits nitrogen oxide (NOx) and carbon monoxide (CO) emissions from boilers, steam generators and process heaters at refineries. Effective July 1, 2002, refineries became subject to the emission standard of 0.033 pounds of NOx per million BTU of heat input, averaged over all affected units each day. This NOx standard is contained in Section 9-10-301. This is the primary standard in this rule. Section 9-10-305 limits CO emissions to 400 ppmv (dry, 3% O_2). Because of the inverse relationship between NOx and CO emissions, this CO limit is included in the rule to ensure that CO emissions do not significantly increase because of NOx control efforts. Section 9-10-304 contains a separate NOx limit for CO Boilers of 150 ppm (dry, 3% O_2), or an abatement system with an efficiency of at least 50%.

Prior to the effective date of Regulation 9, Rule 10, each refinery was required to submit a *Control Plan* and a *Monitoring Plan* outlining how the refinery would comply with Regulation 9, Rule 10. The Control Plan includes: a list of all affected units, a description of the NOx

control system for each affected unit, the projected NOx emission rate for each unit, and an implementation schedule for the installation of additional control equipment. The Monitoring Plan includes: a list of sources to be equipped with NOx, CO and oxygen continuous emission monitors (CEMs), a list of sources for which an equivalent verification system would be used, and a description of fuel flow meters for each source or group of sources.

Compliance with Regulation 9, Rule 10 is determined daily. The owner/operator uses a combination of CEM data, unit-specific NOx emissions factors, fuel usage and fuel heat content data to calculate the daily average NOx emissions per unit of heat input (lb NOx / million BTU) for the affected sources. Compliance with the CO Boiler NOx concentration limit is determined directly by CEM. Compliance with the CO concentration limit is determined by either CEM or periodic source tests.

Not all sources are monitoring by CEMs. In general, emissions from large units are measured with CEMs and emissions from small units may be determined using an equivalent verification system. The District determines equivalency for this purpose on a case-by-case basis, guided by the District policy entitled "*NOx, CO and O_2 Monitoring Compliance with Regulation 9, Rule 10"*, signed by Bill De Boisblanc, June 23, 2000, and amended April 10, 2003. This policy states that in lieu of CEMs, the owner/operator may establish a pre-defined operating range for smaller sources, based on a series of source tests. Emissions for such sources are calculated based on source-specific emission factors and measured fuel usage. The pre-defined operating ranges are specified in permit conditions.

The owner/operator is required to retain records of data necessary to determine compliance for a period of at least five years, and to submit written quarterly reports to the District.

This refinery also uses Interchangeable Emission Reductions Credits (IERCs) as a means of complying with the refinery-wide average NOx limit in Section 9-10-301. The daily average NOx emission rate (lb NOx/million BTU) is determined as described above. If this emission rate exceeds the limit of 0.033 lb/million BTU, the refinery must use sufficient IERCs to offset the difference between the actual emission rate and the Regulation 9, Rule 10 limit, plus ten percent of the difference. IERCs are generated in accordance with Regulation 2, Rule 9, by early compliance or over-compliance with an emission standard. IERCs must be formally banked prior to use, and can only be used as part of an Alternative Compliance Plan (ACP) approved under Regulation 2-9. At the end of each ACP year, the refinery surrenders the IERC banking certificates sufficient to cover the IERCs that were consumed during the prior ACP period.

In the case of Valero Refinery, Sources at Facility B3193 (S19, S20, S21) are considered together with the sources that are subject to Regulation 9-10-301 at Facility B2626, Valero Refining. Valero intends to comply with Regulation 9-10-301 by using IERCs that the facility generates by over-controlling its CO Boilers. Valero applied for these IERCs in Application 3915. The evaluation for Application 3915 is attached in Appendix A. Condition 19329 concerning the IERCs has been added to the Section IV and VII tables. Valero has continued to apply for additional IERC's as the credits are generated.

District permit applications not included in this permit
This facility sends a large number of permit applications to the District every year. Review of the following permit applications was not completed in time to include the results in this Title V permits. The Title V permit will be revised periodically to incorporate these applications as permit revisions following the procedures in Regulation 2, Rule 6, Major Facility Review.

Application #	Project Description
2035	MTBE Phaseout Project
3951	Enhancements to Fluid Catalytic Cracker Unit
4398	Banking of Interchangeable Emissions Reduction Credits
5846	Valero Improvement Project
7214	New Thermal Oxidizer for Wastewater Treatment Plant

District Regulation 8, Rule 2 Applicability:

The District has determined that the definition of "miscellaneous operation" in Regulation 8-2-201 excludes sources that are in a source category regulated by another rule in Regulation 8, even if they are exempt from the other rule. This is because such sources limited by the terms of the exemption. Thus, for example, a hydrocarbon storage tank that stores liquids with a vapor pressure less than 0.5 psia is exempt form Regulation 8, Rule 5, Storage of Organic Liquids (8-5-117), and is not subject to Regulation 8, Rule 2, Miscellaneous Operations.

The policy justification for this determination is that the District considered appropriate controls for the source category when it adopted the rule governing that category. Part of the consideration includes determination of sources and activities that are not subject to controls.

Relationship between Valero Refining (Plant B2626) and Valero Asphalt Plant (Plant B3193):

The District has determined that Valero Refining and Valero Asphalt are the same facility.

Federal Title V regulations allow the District to issue separate Title V permits to distinct operations within a facility, 40 CFR 70.2. Because both draft permits are very close to completion, the District has decided to issue separate permits to these two facilities. Before doing so, however, requirements that arise due to the facilities' association with each other must be added to the draft permits.

The District has determined that no additional requirements apply to sources at Valero Refining due to the determination that the two refineries are the same facility.

Discussion

Valero Refining and Valero Asphalt are located on contiguous property. The Standard Industrial Classification (SIC) code for both facilities is 2911 (Petroleum Refineries).

Because of the common ownership and common purpose of the two refineries, the District considers the two refineries to be a single facility under both Federal and District regulations.

- District permits
- District regulations
- Federal New Source Review and Prevention of Significant Deterioration
- Federal National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR 61 and 63)
- Federal New Source Performance Standards (NSPS) (40 CFR 60)
- Title V operating permits

As a result, the emissions from both plants must be combined to determine whether or not they exceed the Title V applicability thresholds. Also, any requirements under the above programs from which Valero Asphalt was exempt due to its size, must be reviewed based on the refineries' combined capacity.

Changes Made To Permit After Public Notice For ACP Sources:

IERCs will be used to comply with BAAQMD Regulation 9-10-301. Therefore, BAAQMD Regulation 2, Rule 9, Interchangeable Emission Reductions Credits, and Condition 19329 have been cited in the table.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Because the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit only contains elements 2-6-409.10.1 and 2-6-409.10.2.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past year and has no records of compliance problems at this facility. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and as appropriate, revised the conditions for clarity and enforceability. Some conditions have been deleted because they reiterate an applicable requirement that is now contained in Section IV, Source-Specific Applicable Requirements. Each permit condition is identified with a unique numerical identifier, up to five digits.

Where necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

The existing permit conditions are generally derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). It is also possible for permit conditions to be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources so as to help ensure compliance with District rules addressing preconstruction review. The applicability of preconstruction review depends on whether there is a "modified source" as defined in District Rule 2-1-234. Whether there is a modified source depends in part on whether there has been an "increase" in "emission level." 2-1-234 defines what will be considered an emissions level increase, and takes a somewhat different approach depending on whether a source has previously permitted by the District.

Sources that were modified or constructed since the District began issuing new source review permits (March 7, 1979) will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding "emission level" for purposes of 2-234.1 and 2-1-234.2. By contrast, for older sources that have never been through preconstruction review (commonly referred to as "grandfathered" sources), an "increase" in "emission level" is addressed in 2-1-234.3. A grandfathered (pre March 7, 1979) source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 3) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to

March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is "bottlenecked"), then the relaxing of that limitation ("debottlenecking") is considered a modification. Attachment IV shows the new source review sources and the grandfathered sources. This source delineation is also shown in Attachment I for permitted sources.

In some instances, the District has established throughput reporting thresholds in the Title V permit for grandfathered sources. As discussed above, these reporting thresholds serve to provide inform the District that further investigation is appropriate into whether a modification has occurred. These thresholds have been established in instances where there is a factual basis for at least estimating the level at which a 2-1-234.3 definition is triggered. Rather than attempting to establish limits definitive of a modification – an exercise that would have been beyond the District's resource capabilities at this time – thresholds for grandfathered sources were established at levels indicative that further investigation into whether a modification has occurred is appropriate. . If the District's investigation shows that a modification had occurred, then the facility would then be expected to apply for a preconstruction permit addressing the modification and the District would consider whether an enforcement action was appropriate.

When the District first proposed the Title V permit, the throughput limits contained therein were expressed as presumptively indicating that a modification had occurred. In conjunction with that proposal, the District noted that these presumptive limits were intended to facilitate implementation of the NSR program, but that the District had in most cases not done sufficient research to characterize the limits as definitively representing the NSR baseline. The "presumptive" approach was viewed by the District as a useful first step towards defining NSR baselines while acknowledging that the limits established through this process may need further refinement.

Comments on the initial proposal from both the refineries and citizen groups criticized the presumptive approach. Accordingly, the District, in re-proposing the permit, changed the characterization of the grandfathered source limits to that of a reporting threshold. Consequently, a violation of the permit will have occurred if the threshold is exceeded but not reported. However, exceedance of the threshold does not create a presumption that a modification has occurred. Conversely, compliance with the threshold does not create a presumption that there has been no modification. The reporting thresholds will provide the District with information helpful to implementation of the NSR program that the facility previously did not have an affirmative obligation to submit. Establishing these thresholds is thus a step forward in implementing NSR at grandfathered sources, and language in the permit makes clear that compliance with the thresholds in no way provides the facility with an argument that a modification has not occurred. Where factually supportable, the District is establishing these reporting thresholds pursuant to its authority in 2-1-403.

Conditions that are obsolete or that have no regulatory basis have been deleted from this permit.

Conditions have also been deleted due to the following:

- Redundancy in record-keeping requirements.
- Redundancy in other conditions, regulations and rules.
- The condition has been superseded by other regulations and rules.
- The equipment has been taken out of service or is exempt.
- The event has already occurred (i.e. initial or start-up source tests).

The regulatory basis has been referenced following each condition. The regulatory basis may be a rule or regulation. The District is also using the following codes for regulatory basis:

- BACT: This code is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This code is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This code is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This code is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This code is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Abatement device operating parameter monitoring has been added for each abatement device.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes to Permit Conditions / New Conditions

Condition 8348 (S-1007 Alkylation Unit) has been deleted. The conditions were superseded by Condition 10574 (Application #3782).

The maximum throughput limits are presented in Table II.A and are in effect upon approval of the Title V Permit. Conditions for the Valero Cogeneration Project (S-1030, S-1032, S-1033, S-1034), approved near the end of 2001, are incorporated in Table II A.

Conditions for the three emergency standby generators (S-240, S-241 and S-242), which lost their exemption on August 1, 2001, are also included.

Conditions have been added (Condition 20806) to the four existing flares (S-16, S-17, S-18, S-19) to control visible emissions and maintain proper records of flaring events.

A number of new conditions have been added to implement the additional compliance monitoring imposed pursuant to this permit (Condition 19466). These are discussed in more detail in the next section.

Refinery processes are usually operated in steady state (constant flow and temperature conditions). The process controls react to fluctuations in conditions by adjusting flow rates and fuel use to bring the process back to the desired conditions. Excess emissions are more likely to occur when operating conditions are being changed from one set of values to another. They are most likely to occur when the change is greatest: during startup and shutdown.

The District has imposed a permit condition on all of the refineries, pursuant to the authority granted by BAAQMD Rule 2-1-403, requiring the facility to notify the District no less than three calendar days in advance of any startup or shutdown. This will enable District staff to observe the activity, and respond if appropriate.

GENERAL CHANGES MADE TO PERMIT AFTER PUBLIC NOTICE:

This condition has been added to govern the use of IERC's to comply with BAAQMD Regulation 9-10-301.

> Condition # 19329
> 1. The affected sources making up this Alternative Compliance Plan shall not exceed the following maximum hourly firing rates: (Basis: Regulation 2-9-303.4.1, Cumulative Increase)
>
> Valero Refining Company (Plant # 12626)
> S-7 Pipestill Hydrofiner Furnace: F-103, 53 MMBtu/Hr
> S-20 Naphtha Hydrofiner Furnace: F-104, 62 MMBtu/Hr
> S-21 Hydrogen Reforming Furnace: F-301, 614 MMBtu/Hr
> S-22 Hydrogen Reforming Furnace: F-351, 614 MMBtu/Hr
> S-23 HCU Recycle Gas Furnace: F-401, 200 MMBtu/Hr
> S-24 Cat Feed Hydrofiner Treat Gas Furnace: F-601, 33 MMBtu/Hr
> S-25 Fluid Catalytic Cracker Unit: F-701, 230 MMBtu/Hr
> S-26 Cat Naphtha Hydrofiner Furnace: F-801, 33 MMBtu/Hr
> S-30- S-S33 Power former Furnace: F-2901 thru 2904, 463 MMBtu/Hr
> S-34 Powerformer Regenerator Furnace: F-2905, 74 MMBtu/Hr
> S-35 Powerformer Reactivation Furnace: F-2906, 14 MMBtu/Hr
> S-40 Utility Package Boiler: SG-2301, 218 MMBtu/Hr
> S-41 Utility Package Boiler: SG-2301, 218 MMBtu/Hr
> S-173 Coker Steam Superheat Furnace: F-902, 20 MMBtu/Hr
> S-220 MRU Hot Oil Furnace: F-4460, 351 MMBtu/Hr
>
> Valero Asphalt Plant (Plant # ~~1~~B3193)
> S-19 Vacuum Heater: H-1, 40 MMBtu/Hr (from 33 MMBtu/Hr 4/03, AN 7023)

S-20 Steam Boiler: H-2A, 15 MMBtu/Hr
S-21 Steam Boiler: H-2B, 15 MMBtu/Hr

2. The applicant shall submit quarterly reports and an annual report (July 1 to June 30) of theirACP activity no later than 30 days after the close of the specified period. (Basis: Regulation 2-9-303.3)

3. The applicant shall submit all necessary documents to the District to review and approve (or deny) the Alternative Compliance Plan. These documents in support of continuing the ACP shall be submitted no later than 30 days after the close of the calendar year. (Basis: Regulation 2-9-303.3)

4. The applicant shall maintain all records required in parts #2 and #3 for a period of at least 5 years from the date of such record. These records shall be made available to District staff upon request. (Basis: Regulation 2-9-303.3)

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements that apply to each source. The summary includes a citation for each monitoring requirement, frequency, and type. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided when no monitoring is proposed due to the size of a source. In all other cases, the column will have "N/A", meaning "Not applicable".

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements**.** It follows that, although Title V calls for a re-examination of all monitoring**,** there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no

monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation**.** Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate**.**

Additional monitoring was added to require recordkeeping whenever a flaring event occurs for those flares which are exempt from 60.104(a)(1) because they are only used for process upset gases or fuel gas that is released as a result of relief valve leakage or other emergency malfunction.

A summary of all monitoring is contained in Section VII, Applicable Limits and Compliance Monitoring Requirements, of the permit. The summary includes a citation for each monitoring requirement, frequency, and type. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

NOX Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
none			

NOx Discussion:

Every source at the refinery that is subject to a NOx limit is also subject to NOx monitoring. These monitoring requirements come either from Regulation 9-10, existing permit conditions, or both. For more detailed information on this matter, see Table VII. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

BAAQMD Regulation 9, Rule 10 "Inorganic Gaseous Pollutants: NOx and CO from Boilers, Steam Generators and Process heaters in Petroleum Refineries"

Regulation 9-10-502 requires continuous emission monitoring systems (CEMS) or "equivalent" verification systems to demonstrate compliance with Regulation 9, Rule 10. A BAAQMD Policy Memorandum, dated June 23, 2000, and amended on April 10, 2003, outlines in detail, emission monitoring requirements for petroleum refinery heaters, furnaces, and boilers that are subject to the rule. Exact monitoring requirements for NOx are dependent upon emission control devices in use, firing rate, and source test results. The District Policy is contained in Appendix B. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

CO Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
None			

CO Discussion:

Every source at the refinery that is subject to a CO limit is also subject to CO monitoring. These monitoring requirements come either from Regulation 9-10, existing permit conditions, or both. For more detailed information on this matter, see Table VII. Sources that are subject to this rule

are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

BAAQMD Regulation 9, Rule 10 "Inorganic Gaseous Pollutants: NOx and CO from Boilers, Steam Generators and Process heaters in Petroleum Refineries"

Regulation 9-10-502 requires continuous emission monitoring systems (CEMS) or "equivalent" verification systems to demonstrate compliance with Regulation 9, Rule 10. A BAAQMD Policy Memorandum, dated June 23, 2000, and amended on April 10, 2003, outlines in detail, emission monitoring requirements for petroleum refinery heaters, furnaces, and boilers that are subject to the rule. Exact monitoring requirements for CO are dependent upon emission control devices in use, firing rate, and source test results. The District Policy is contained in Appendix B. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

SO_2 Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
Facility	BAAQMD 9-1-302	General emission standard: < 300 ppm SO2 (applies only to gas-fired equipment when GLMs are not functioning)	None (Note 1)
Emergency Diesel Backup Generators S240, S241, S242, S243	BAAQMD 9-1-304	Sulfur content of liquid fuel <0.5%, by weight	Low-Sulfur Fuel Certification by Supplier for each lot (Note 2)
S-1 and S-2 Sulfur Plants	BAAQMD 9-1-313.2 and SIP 9-1-313.2	95% of H2S in fuel gas is removed and recovered on a refinery wide basis and 95% of H2S in process water streams is removed and recovered on a refinery wide basis and 95% of ammonia in water streams is removed	Annual Source Test including inlet/outlet Sampling of the Fuel Gas Scrubber and Sour Water Stripper Towers (Note 3)

SO_2 Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
S-1 and S-2 Sulfur Plants	BAAQMD 6-330	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	Semi-annual source tests (Note 4)

SO2 Discussion:

Note 1: All facility combustion sources are subject to the SO2 emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). Area monitoring to demonstrate compliance with the ground level SO2 concentration requirements of Regulation 9-1-301 has been required by the APCO (per BAAQMD Regulation 9-1-501). No monitoring is required for BAAQMD Regulation 9-1-302 because it only applies when the ground level monitors (GLMs) are not operating, which is infrequent.

Note 2: Per CAPCOA/ARB/EPA Agreement, certification by fuel supplier for each fuel delivery. California Diesel Fuel shall not exceed a sulfur content of 0.05 %, by weight. Certification may be provided once for each purchase lot, if records are also kept of the purchase lot number of each delivery.

Note 3: Sulfur plants (S-1 and S-2) will require annual source testing to demonstrate compliance with BAAQMD Regulation 9-1-313.2. This H2S and ammonia removal standard is more of a design standard than a performance standard. The entire removal system is designed to achieve the required removal. The District has determined that annual testing will assure compliance by verifying that the system continues to operate as designed. In addition, other monitored parameters (e.g., sulfur plant SO2 emissions and refinery fuel gas sulfur content, which are continuously montitored) will alert the operator if the system is not functioning properly.

The likelihood of undetected non-compliance is low. The tests required to demonstrate compliance are cumbersome, expensive, and dangerous (because of the nature of the sources). Direct measurement is not feasible. As a result, compliance must be demonstrated by source test. The cost of more frequent tests is not justified by the incremental improvement in compliance assurance.

Note 4: Sulfur plants (S-1 and S-2) will require annual source testing to demonstrate compliance with BAAQMD Regulation 6-330. More frequent monitoring is not required, because the system will exceed the standard only under upset conditions. The monitors and alarms that alert the operator to abnormal conditions are adequate to ensure that upsets are detected and corrected. The cost of more frequent tests is not justified by the incremental improvement in compliance assurance.

PM Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S1, S2, Claus Plants (sulfur recovery))	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Visual inspection (Note 1)
S-7, S13, S-20-S-26, S30-S42, S48, S50, S56, S-173, S220, Process Heaters (gaseous fuels only)	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)
S27, PFR Regeneration	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Visible observation when burning carbon off catalyst (Note 3)
S29, Cooling Tower	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 8)
S-157, Sulfur Storage	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 4)
S-167, S-168, Seal Oil Spargers	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 4)
S-174, S-175, Material Handling	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 4)
S-16, S-18, S-19, Flares	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Gas flow meter along with Visual Inspection and record (Note 5)
S-17, Flare	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Visual Inspection (Note 5)
S-43- S-46 Turbines	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)
Emergency Diesel Backup Generators S240, S241, S242, S243	BAAQMD 6-303.1	Ringelmann 2 for no more than 3 minutes in any hour	No monitoring (Note 6)

PM Sources

S# &	Federally Enforceable Limit	Federally Enforceable	
S-1030, S-1032 Cogeneration Gas Turbines	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)
S-1031, S-1032 Heat Recovery Steam Generators	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)
S3, S4, S7, S13, S20-S26, S30-S42, S48, S50, S56, S173, S220 Process Heaters	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 2)
S27, PFR Regeneration	BAAQMD 6-310	0.15 grain per dscf	Visual observation when burning carbon off catalyst (Note 7)
S-43-S47, Turbines	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 2)
S-157, Sulfur Storage	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)
S160, S-167, S-168, Seal Oil Spargers	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)
S-174, S-175, Material Handling	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)
S231, S236 Ammonia and Sulfur Tanks	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 4)
S231, S236 Ammonia and Sulfur Tanks	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)

PM Sources

S# &	Federally Enforceable Limit	Federally Enforceable	
Emergency Diesel Backup Generators S240, S241, S242, S243	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 6)
S-1030, S-1032 Cogeneration Gas Turbines	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 2)
S-1031, S-1032 Heat Recovery Steam Generators	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 2)

Note 1: Liquid Fuels: Per CAPCOA/ARB/EPA Agreement, adequate monitoring for combustion of liquid fuels is a visible emissions inspection after every 1 million gallons diesel combusted, to be counted cumulatively over a 5 year period. If a visible emissions inspection documents opacity, a method 9 evaluation shall be completed within 3 working days, or during the next scheduled operating period if the unit ceases firing on diesel fuel within the 3 working day time frame. Condition 1694, Part A.2c is a new requirement to monitor visible emissions before every 1 million gallon of fuel is combusted. This frequency was selected by balancing the likelihood of undetected significant non-compliance with the expense of more frequent inspections. The cost of more frequent monitoring is not justified for sources with liquid fuel usage that is infrequent or small. The cost of conducting method 9 evaluations is not justified unless a less formal inspection indicates that the source is emitting smoke.

Note 2: Gaseous Fuels: BAAQMD Regulation 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas. No monitoring is required for sources that burn gaseous fuels exclusively, per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP".

Note 3: Visual observation of stack needed during catalyst burn-off. At other times, the source is merely a combustion device using gaseous fuels. Visible emissions are normally not associated with such sources. See Note 2.

Note 4: Source is capable of exceeding visible emissions or grain loading standard only during process upset. Under such circumstances, other indicators will alert the operator that something is wrong.

Note 5: Condition 20806 is a new requirement for a visual inspection of flares as soon as possible after a release begins. Hourly observation of the flare during operation will ensure that improper flare operation is detected and corrected.

Note 6: No monitoring required because this source will be used for emergencies and reliability testing only.

Note 7: Tube cleaning is periodically performed on furnaces that burn liquid fuels, to remove built-up soot from the outside of furnace tubes. If improperly performed, it can result in visible emissions. Hourly observation of the stack during tube cleaning will ensure that improper tube cleaning performance is detected and corrected.

Note 8: The maximum PM10 grain loading of the cooling tower exhaust from the refinery cooling towers is calculated in Appendix D. Each refinery in the jurisdiction of the BAAQMD has supplied data on cooling tower water circulation rates and exhaust airflow rates. To calculate a conservative grain loading, EPA AP-42 Compilation of Air Pollution Emission Factors are used to determine the maximum grain loading in the cooling tower exhaust as explained in Appendix D. The maximum PM10 grain loading at the refineries is calculated to be 0.0067 grains per dry standard cubic feet of exhaust, which is much lower than the limit of 0.15 grains per dry standard cubic feet in BAAQMD Regulation 6. Because of the conservative nature of this calculation of grain loading, which results in values much lower than the limit of Regulation 6, periodic monitoring of this source is not required.

POC Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S27, Power Former Regeneration	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Minimal VOC emissions (Note 1)
S29, Cooling Tower	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Minimal VOC emissions (Note 4)
S159, Lube Oil Reservoir	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Abated Emissions (Note 2)
S167, S168, Seal Oil Spargers	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Vented to fuel gas recovery system (Note 3)
S165 Gasoline Dispensing Facility	BAAQMD 8-7-301.10	98% or highest vapor recovery rate specified by CARB	No Monitoring: Vented to a CARB certified vapor recovery system
S165 Gasoline Dispensing Facility	BAAQMD 8-7-313.1	Fugitives $\leq$ 0.42 lb/1000 gallon	No Monitoring: Vented to a CARB certified vaporrecovery system
S165 Gasoline Dispensing Facility	BAAQMD 8-7-313.2	Spillage $\leq$ 0.42 lb/1000 gallon	No Monitoring: Vented to a CARB certified vaporrecovery system
S165 Gasoline Dispensing Facility	BAAQMD 8-7-313.3	Liquid Retain + Spitting $\leq$ 0.42 lb/1000 gallon	No Monitoring: Vented to a CARB certified vaporrecovery system
S-194, S-195, S-188 – CPS UNITS	BAAQMD 8-8-303	Vapor tight gauging and sampling devices	No Monitoring: Minimal VOC emissions
S189,S197, S-198 ISF Units	BAAQMD 8-8-303	Vapor tight gauging and sampling devices	No Monitoring: Minimal VOC emissions

POC Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
S-55 Waste Water Tank	BAAQMD 8-5-306	Tank control device standards; includes 95% abatement efficiency requirement	No Monitoring: Vented to fuel gas recovery system
S-124, S-227 S133 Hydrocarbon and Spent Acid Tanks	BAAQMD 8-5-306	Tank control device standards; includes 95% abatement efficiency requirement	No Monitoring: Vented to fuel gas recovery system
S201, S202, Loading	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Vented to fuel gas recovery system
S-208 Coker Feed Drum	BAAQMD 8-5-306	Tank control device standards; includes 95% abatement efficiency requirement	No Monitoring: Vented to fuel gas recovery system
S-227 Hydrocarbon Tank	40 CFR 60.112b(a)(3)(ii)	Closed vent system leak tightness standards (< 500 ppmw)	No Monitoring: Vented to fuel gas recovery system

Note 1: The S-27 Power Former Regeneration Unit regenerates the spent catalyst from the S-1004 Naphtha Catalytic Reformer. Prior to regeneration, nitrogen is constantly circulated over the fixed catalyst bed to strip it of any VOC's. The VOC laden stream is condensed and drained into a knock out pot. The liquid goes to slop and the gases are routed back to the fuel gas recovery system. The catalyst during regeneration should have virtually no VOC's present.

Note 2: The VOC emissions from the S-159 Lube Oil Reservoir are abated by the S-36 Boiler (SG-701). After abatement, VOC emissions are minimal. Violation is possible only if S-36 is not operating, and operation of S-159 without abatement is prohibited by Condition 19466, Part 12

Note 3: The VOC emissions from S-167 and S-168 Seal Oil Spargers are vented in a closed system to the fuel gas header to be introduced into the refinery fuel gas stream, and operation of S-167 and S-168 without this control equipment is prohibited by Conditin 19466, Part 13. VOC emissions from this controlled source are negligible.

Note 4: The maximum POC concentration of the cooling tower exhaust from the refinery cooling towers is calculated in Appendix D. Each refinery in the jurisdiction of the BAAQMD has supplied data on cooling tower water circulation rates and exhaust airflow rates. To calculate a conservative POC concentration, EPA AP-42 Compilation of Air Pollution Emission Factors are used to determine the maximum POC concentration in the cooling tower exhaust as explained in Appendix D. The maximum POC concentration in the cooling tower exhaust at the refineries is calculated to be 9.67 ppm, which is much lower than the limit of 300 ppm in BAAQMD Regulation 8, Rule 2. Because of the conservative nature of this calculation of POC concentration, which results in values much lower than the limit of Regulation 8, Rule 2, periodic monitoring of this source is not required.

Discussion of Other Pollutants:

HAP: There was no need for additional monitoring of HAPs. All HAP limits contained adequate monitoring requirements. For more information on HAP monitoring see Table VII.

As described in the POC discussion above, the maximum POC concentration of the cooling tower exhaust from any of the refinery cooling towers is 9.67 ppm. 40 CFR, Subpart CC, defines a Miscellaneous Process Vent as a gas stream that contains greater than 20 ppm by volume organic HAP that is continuously or periodically discharged during normal operation. If the entire POC emission in the exhaust is assumed to be a single HAP, and since the maximum concentration is less than 20 ppm (actually less than 10 ppm) and the cooling tower exhaust does not qualify as a process vent as defined in 40 CFR, Subpart CC, periodic monitoring is not required.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section VI of the permit.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit that identifies and justifies specific federally enforceable regulations and standards which the APCO has confirmed are not applicable to a source or group of sources, or (2) A provision in a major facility review permit that identifies and justifies specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting which are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

Compliance with the applicable requirement contained in the permit automatically results in compliance with any subsumed (= less stringent) requirement.

This facility has the first and second types of permit shield.

Following is the detail of the Type 1 permit shields that were requested by the applicant.

The following permit shields have been granted to the facility:

1. The plant is not subject to the general sulfur dioxide emissions limitation of Regulation 9-1-302 since the 300 ppm sulfur dioxide stack limit does not apply with GLM system in place as required by Regulation 9-1-110 and 9-1-310.3. Note that the requirement has been added to Table IV-Refinery for those times when the GLMs are not functioning.
2. Sources 1 and 2 (Claus sulfur plants) are not subject to Regulation 9-1-307 since the sulfur dioxide emissions from these units are less than 100 pounds per day.
3. Sources 1 and 2 (Claus sulfur plants) are not subject to 40 CFR 60 Subpart J since the plants have not been modified after October 4, 1976.

The following Type 2 permit shields have been granted for the purpose of streamlining:

Table IX B - 1
Permit Shield for Subsumed Requirements
REFINERY

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 10-69	Subpart QQQ. Standards of Performance For Petroleum Refinery Wastewater Systems	40 CFR 63 Subpart CC	BAAQMD incorporation by reference of NSPS 40 CFR 60, Subpart QQQ is superceded by Refinery MACT, 40 CFR 63 Subpart CC.
40 CFR 60 Subpart QQQ	Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems	40 CFR 63.640(o)(1)	For Valero, Subpart QQQ is superceded by Refinery MACT, 40 CFR 63 Subpart CC. Ref: 64.640(o)(1). Subpart CC cites 40 CFR 61 Subpart FF for Wastewater Standards.

Table IX B - 1
Permit Shield for Subsumed Requirements
S21

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD Condition # 10574-19	Continuous fuel flow monitor and recorder	BAAQMD 9-10-502.2 & SIP 9-10-502.2	Fuel flow meters for boilers, steam generators, and process heaters in petroleum refineries

Table IX B - 1
Permit Shield for Subsumed Requirements
S22

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD Condition # 10574-19	Continuous fuel flow monitor and recorder	BAAQMD 9-10-502.2 & SIP 9-10-502.2	Fuel flow meters for boilers, steam generators, and process heaters in petroleum refineries

Table IX B - 1
Permit Shield for Subsumed Requirements
S220

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 2-6-409.2.2	Periodic monitoring sufficient to yield reliable data (for BAAQMD 9-3-303: 125 ppm NOx)	BAAQMD 9-10-502 & SIP 9-10-502.2	Monitoring (CEM for NOx will assure compliance with 9-9-303 limit. Span of CEM for 9-10-502 is too low to measure 125 ppm.)
BAAQMD Condition # 10574-19	Continuous fuel flow monitor and recorder	BAAQMD 9-10-502.2 & SIP 9-10-502.2	Fuel flow meters for boilers, steam generators, and process heaters in petroleum refineries

Table IX B – 10.1
Permit Shield for Subsumed Requirements
S1030, S1032,

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 2-6-409.2.2	Periodic monitoring sufficient to yield reliable data (for BAAQMD 9-3-303: 125 ppm NOx)	BAAQMD Condition 19177-38	Monitoring (CEM for NOx will assure compliance with 9-3-303 limit. Span of CEM for BAAQMD Condition 19177-18(c) is too low to measure 125 ppm.)

Table IX B – 10.2
Permit Shield for Subsumed Requirements
S1031, S1033

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 2-6-409.2.2	Periodic monitoring sufficient to yield reliable data (for BAAQMD 9-3-303: 125 ppm NOx)	BAAQMD Condition 19177-38	Monitoring (CEM for NOx will assure compliance with 9-3-303 limit. Span of CEM for BAAQMD Condition 19177-18(c) is too low to measure 125 ppm.)
40 CFR 60 Subpart Db 60.48b(e)(2) and (3)	Requirement for 500 ppm span	BAAQMD Condition 19177-38	Monitoring (CEM for NOx will assure compliance with 60.44b(e) and 60.44b(l)(1) limits. Span of CEM for BAAQMD Condition 19177-18(c) is too low to measure 500 ppm.)

Table IX B - 2
Permit Shield for Subsumed Requirements
CEMS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
40 CFR 60.7(c)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(c)(1)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(c)(2)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(c)(3)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.

Table IX B - 2
Permit Shield for Subsumed Requirements
CEMS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
40 CFR 60.7(c)(4)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(d)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(d)(1)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(d)(2)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 10-52	40 CFR 60 Subpart VV. Standards of Performance For Equipment Leaks of VOC In The Synthetic Organic Chemicals Manufacturing Industry.	40 CFR 63.640(p)	For Valero process unit fugitive components, with the exceptions of the Dimersol Unit and the vapor recovery compressors, Subpart VV is superceeded by Refinery MACT, 40 CFR 63 Subpart CC.
BAAQMD 10-59	40 CFR 60 Subpart GGG. Standards of Performance For Equipment Leaks Of VOC In Petroleum Refineries	40 CFR 63.640(p)	For Valero process unit fugitive components, with the exceptions of the Dimersol Unit and the vapor recovery compressors, Subpart GGG is superceeded by Refinery MACT, 40 CFR 63 Subpart CC.
BAAQMD 11-7-307.4	Valves	BAAQMD 8-18-404	Allows relief from monthly monitoring if designated as unsafe-to monitor. BAAQMD Regulation 8-18-404 does not allow this relief.

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 11-7-308	Flanges and Other Connectors	BAAQMD 8-18-304	First attempt to repair flanges and other connectors within 5 days, repair within 15 days, subsumed by 8-18-304 which has 24 hour / 7 day time limits.

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 11-7-401	Inspection	BAAQMD 8-18-403	Weekly visual inspection of pumps is subsumed by 8-18-403 which requires daily inspection of pumps and has no NDE exemption.
40 CFR 60.482-7(g)	Standards	BAAQMD 8-18-404	Allows relief from monthly monitoring if designated as unsafe-to-monitor. BAAQMD Regulation 8-18-404 does not allow this relief.
40 CFR 60.482-9(e)	Standards	BAAQMD 8-18-306	Allows delay of repair of valves beyond a process unit shutdown under specific circumstances. BAAQMD Regulation 8-18-306 does not allow this relief.
40 CFR 61 Subpart J	National Emission Standards for Equipment Leaks (Fugitive Emission Sources) of Benzene	40 CFR 63.640(p)	For Valero, Subpart J is superceded by Refinery MACT, 40 CFR 63 Subpart CC. Ref: 63.640(p). Subpart CC cites 40 CFR 60 Subpart VV and 40 CFR 63 Subpart H for Equipment Leak Standards.
40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	40 CFR 63.640(p)	For Valero, Subpart V is superceded by Refinery MACT, 40 CFR 63 Subpart CC. Ref: 63.640(p). Subpart CC cites 40 CFR 60 Subpart VV and 40 CFR 63 Subpart H for Equipment Leak Standards.
40 CFR 61.350(a)	Standards: Delay of Repair	BAAQMD 8-18-306.1	Repair which is impossible without shutdown may be delayed until next process unit shutdown. Subsumed by

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
			BAAQMD 8-18-306.1 which requires repair during the next turnaround or 5 years, whichever is sooner.
40 CFR 61.350(b)	Standards: Delay of Repair	BAAQMD 8-18-306.1	Repair which is impossible without shutdown may be delayed until next process unit shutdown. Subsumed by BAAQMD 8-18-306.1 which requires repair during the next turnaround or 5 years, whichever is sooner.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

The Compliance and Enforcement Division has prepared an Annual Compliance Report for 2001. This report is a summary of District enforcement activities at the Valero Benicia refinery during the Calendar Year 2001. A copy of the report is attached as Appendix A.

The information contained in the compliance report has been evaluated during the preparation of the Statement of Basis for the Major Facility Review Permit. The main purpose of this evaluation is to identify ongoing or recurring problems that should be subject to a schedule of compliance. No such problems have been identified. A second purpose of this evaluation is to identify activities that require additional monitoring to assure compliance. No such activities have been identified.

Eight notices of violation were issued during 2001. Three of the eight involved discrete incidents or breakdowns, which were promptly corrected.

Four of the violations involved equipment failures or violations that were detected through routine inspections. None of the violations resulted in significant releases. Existing inspection and maintenance programs will continue to assure compliance by ensuring that such problems are detected and corrected in a timely fashion.

The last violation involved a failure to submit required monthly CEM reports. This problem has been corrected. The reporting procedures that are being put into place to ensure compliance with

Title V requirements will help ensure that reporting requirements are not overlooked in the future.

All affected sources are now in compliance.

As part of the permit application, the owner certified that all equipment was operating in compliance on July 10, 1996.

F. Differences between the Application and the Final Permit:

The Title V permit application was originally submitted on July 10, 1996. This version is the basis for constructing the Title V permit. Changes to the permit sources and conditions were previously identified in 'Section II. Equipment' and 'Section VII. Conditions' but are repeated here for clarity.

Throughput limits (identified by a basis of Regulation 2-1-234.3) have been added to all sources with no existing throughput or emission limits.

The facility was granted an ACP pursuant to Application 3915 and Regulation 2, Rule 9, Interchangeable Emission Reduction Credits, which are discussed in detail in Section IV.

Equipment changes from Section II:

Alignment of Information in Application and the Permit:
Source and abatement device lists have been revised since the application was first submitted, because of the removal from service of sources and the permitting of new sources and abatement devices. All new sources have been evaluated in accordance with the District New Source Review regulations.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date:

The following sources have been taken out of service: S-130 Sulfur Storage, S-102 Fixed Roof Tank , S-38 Steam Generator SG-703, and S-39 Steam Generator SG-2901, and S-211 MTBE Process Unit.

The following sources were added: S-237 Boiler, S-239 Crude/Product dock Sump, S1027 Pentane Rail Car Loading Rack.

The following sources were added for the Valero Cogeneration Project (Application #2488/2695): S-1030 Gas Turbine, S-1031 Heat Recovery Steam Generator, S-1032 Gas Turbine and S-1033 Heat Recovery Steam Generator.

The following emergency generators were permitted after losing their exempt status: S-240 Emergency Diesel Engine for Break Tank Raw Water Pump, (P-2401C), S-241 Emergency Diesel Engine for Crude Field Firewater Pump, (P-2602), S-242 Emergency Diesel Engine for Dock Firewater Pump (P-2608B), and S-243 Emergency Diesel Engine for Control Room (DG-5101.

Permit Condition Changes and New Conditions from Section VI:

The maximum throughput limits are presented in Table II.A and are in effect upon approval of the Title V Permit. Conditions for the Valero Cogeneration Project (S-1030, S-1032, S-1033, S-1034), approved near the end of 2001, are incorporated in Section VI. Conditions for the three emergency standby generators (S-240, S-241, S-242 and S-243), which lost their exemption on August 1, 2001, are also included. Conditions were added to the four existing flares (S-16, S-17, S-18, S-19) to control visible emissions and maintain proper records of flaring events.

Existing Permit Conditions were revised in the following way:

1. Obsolete, duplicative, unenforceable, and baseless conditions were deleted. Changes are shown in underline and strikeout in Section V.

2. The basis (reason) for the condition was added to each existing condition that did have a basis determination.

Permit Updates, Corrections and Changes since the Proposed Permit released for public comment:

Section I, II, III changes

1. Modified paragraph I.J for grandfathered sources to be consistent with other permits. (VRC#4, A2, EPA#197)

2. Changed responsible official on title page. (VRC#A1)

3. Deleted out of service S-38 and S-39 from Table IIA, and deleted Table IV-A7 and Table VII-A7. Also corrected SB in Section C.II and F. (VRC#A4, B26, D13, G1, G21)

4. Added “Grandfathered Source” to S-55, 74, 159 and “New Source Review” to S-239 in Table IIA and SB Attachment I, consistent with SB Attachment IV. Also added 3100 gal for S-239 capacity (VRC#A6, A16, G26 & G37).

5. Corrected capacity of S-108 from kgal to gal in Table IIA and SB Attachment I (VRC#A8 & G27)

6. Edited Description text of S-151 in Table IIA and SB Attachment I (VRC#A9).

7. Modified Throughput text for S-156 in Table IIA and SB Attachment I (VRC#A10).

8. Corrected capacity of S-170 in Table IIA and SB Attachment I (VRC#A11).

9. Changed S-243, 1006 & 1007 from Grandfathered to New Source Review in Table IIA and SB Attachment I (VRC#A19 & G31).

10. For S-1004, modified capacity and throughput text, adding reference to Condition 18794, Part 1, and changed Grandfathered to New Source Review in Table IIA and SB Attachment I and IV(VRC#A20).

11. Corrected capacity of S-109 in Table IIB and SB Attachment II (VRC#A22).

12. Added S-3 and S-4 sootblowing exception 6-304 to A-1, 2, 3, 4 & 5 in Table IIC and SB Attachment III (VRC#A24, G35).

13. Replaced all obsolete 8-5-311.3 citations with 8-5-306 in Table IIC, Table VII-J18, Table VIII, and in the SB (VRC#A26, G36).

14. Added A-24 (Tail Gas Hydrogenation) to Table II C and SB Attachment III and modified description of A-56. At one time A-24 was included in A-56 but this did not get total incorporation, so A-24 will be delineated on its own. (VRC#A27 & 28)

15. Added Title 40 Part 82 Subpart H 82.270(b), Halon Prohibitions to Table III. (VRC#A30)

16. Modified S-209, 210, 1024, and deleted S-211 in Table IIA in accordance with the MTBE Phaseout Project (A/N 2035) to allow the mandated year-end discontinuance of this gasoline additive. Revised Condition 9296 to allow S-209 and S-210 to store ethanol, added Parts E1 and E2 for S-1024, and made commensurate changes to Tables IV-B5, J13, X, VII-B5 and the SB Attachment I & VI. (VRC#A7, A14, A15, A21, B70, B112, B113, B133, C6, C8, & D53) Note: For this project, only selected changes to this permit have been made. A project of the magnitude of the MTBE Phaseout Project requires a modification to the Title V permit with the appropriate public comment period. However, the year-end mandate to end MTBE usage will occur prior to the permit modification, so key changes have been made to allow 2004 operation MTBE-free. The remaining permit changes associated with this project will be made in the upcoming permit modification.

Section IV, Applicable Requirements

1. In Table IV – Refinery Generally Applicable Condition, added Section 112(j) and changed BAAQMD Condition # 19466-4 to not federally enforceable. (GGU#45,

VRC#5)

2. Added Subpart UUU and Condition 20620 to Table IV – Refinery Generally Applicable Condition. Added 20762 (tank vapor pressure 8-5-117) to Table IV – Refinery Generally Applicable Requirements which Require Routine Monitoring. Also added condition 20620 and 20762 to Section VI. (GGU#46, VRC#B5, B8 & B19, EPA#187)

3. Added 40 CFR Subpart A, 60.18(c)(1) to Table VIII. Added 60.18 to Tables IV-A8.1, IV-A8.2 and IV-A9. (GGU#48)

4. Added 12-11 flare regulations to Tables IV-A8.1, IV-A8.2 (exemption 12-11-110 only) and IV-A9. Added 12-11 regulations to Tables VII-A8(1) and VII-A9 (not VII-A8(2) because S-17 Butane Flare is exempt from 12-11). (EPA#183, GGU#55, VRC#2, B28)

5. Modified BAAQMD Regulation 8, Rule 5 in Table IV – Refinery Generally Applicable Condition to reflect the new rule (VRC#B2).

6. Modified BAAQMD condition 19466, Part 3, in all Tables where cited in Section IV, to be consistent with the text in Section VI (S-5 and S-6 deleted). VRC#B10.

7. Deleted BAAQMD condition 19466, Part 6 for all sources except S-5 and S-6. Modified 19466-6 in Section VI to be consistent with text in Table IV-A5&6. Deleted 19466, Part 6 from all other tables in Section IV. In Section VII, 19466-6 was deleted in Table VII-A1 & A2, and changed to 19466-7 for the remaining citations. (VRC#B11, B50, B75, C54, D51, D55)

8. Revised Condition 11030, Part 3 NOx limit to 150 ppm in Tables IV-A3 and VII-A3 to be consistent with text in Section VI (VRC#B14).

9. Added basis of deletion for Condition 11030, Part 5, in Table IV-A3 (VRC#B15).

10. In Table IV_A3, revised Condition 11030, Part 7 to be consistent with the text in Section VI and added FE = N (consistent with the monitoring requirement in Table VII-A3). (VRC#B16, EPA#175)

11. In Tables IV-6.1, 6.2, A10, A11, A12, A15, A16, A18, & A19, and in Section VI, revised Condition 19466, Part 10, to be consistent with the CO monitoring requirements in the associated tables in SectionVII. Changed the frequency of S-35 CO source tests to annual, consistent with the policy for small units (<25MMBtu/hr). Changed Table VII-A6.2 to reflect annual testing for S-35. Also added missing Regulations 2-9-602, 603, & 604 to Section IV tables. (VRC#B21, B22, B23, B24, C58, C59, D11).

12. Revised Condition 10574, Part 21, and 16027, Part 10, to reflect the "no more than 3 minutes/hour" language of Regulation 6-301. Revised this condition in Tables IV-A10, A19, A20 and VII-A10, A19 to agree with this change. (VRC#B34, B47, C10, C30, D18)

13. In Table IV-A-6.3, A17, and VII-A6.3, A17changed the FE to N for 9-10-112 because the citation is different than the SIP approved version, and expanded the description to show the exemption is for fuel usage less than 90,000 therms/year. Also added more records and reporting requirements from Regulation 9-10 (VRC#B40, B42, D27, EPA#176).

14. In Table IV-A18, added Regulation 1-522.7 which was inadvertently deleted (VRC#43).

15. Added Regulation 6 citations and 8-2-301 to Tables IV-D1 and VII-D1 for S-29 Cooling Tower (EPA#177).

16. Added Regulation 6-401 to Tables IV-A4 & A5 for S-5 and S-6. Also changed FE= Y for regulation 1-522.7 because it is contained in the SIP. (EPA#181, 182)

17. In Table IV-A20, deleted Conditions 16027, Part 20 and 21, which do not apply to S-237, and added them in Tables IV-A14.1 & A14.2. (VRC#B48).

18. Revised Condition 19466, Part 9, and text in Tables IV-A4 and A5 to reflect that it only applies to S-5 and S-6 (which was shown in Tables IV-A4 & A5, but not elsewhere in the permit). Deleted 19466, Part 9 from all other tables in Section IV and VII. (VRC#B50, B68, B77, C57, D51)

19. In Table IV-22.1 & 22.1, added BAAQMD Regulation 10-14 and 40CFR60.335(d) (22.1 only), revised Condition 19177, Part 18(d), 19(h) to agree with the text in Section VI, deleted Condition 19177, Part 32, 42 and 45. In addition, Condition 19177, Part 43 & 44 were revised to be consistent with the text of the Databank condition that was included with recent PTO 2488 (also changed in Section VI) (VRC#B54, 55, 56, 57, 59, 60, 61, 63, & 64).

20. In Table IV-B7, changed basis of Condition 12727, Part 5, to agree with Section VI. (VRC#B71)

21. In Table IV-G1, added Regulation 8-16-502 and changed SIP 8-16-303.2 to 8-16-303.3.2. (VRC#B86, 87, 88)

22. In Tables IV-H1.1 & 1.2, added Regulation 8-8-601, 61CFR355(k)(1) (which was shown out of format on Table IV-H1.2), and removed deleted Condition 10574, Part 6. (VRC#B89, 90, 91)

23. In Tables IV-H4.2, H5.2, J36, J37, J39, changed error in Thermal Oxidizer ID from A-56 to A-57. Also made correction in Section VI, Conditions 11879, 11882, 11888 and 13319. (VRC#B96, B105, B157, B158, B165, B173 & C23)

24. In Table IV-H6 and VII-H6, clarified applicable citation from 8-5-501 to 8-5-501.1 and modified equipment name. (VRC#B101, B102, D75, D76)

25. In Tables IV-J1, J2, and J12, added, deleted or replaced citations that are applicable to S-57, 58, 87, 88, & 91, Tanks with an external floating roof tank with slotted sampling or gauging wells, resilient toroid type primary seals and without a vacuum relief valve or emergency roof drain valve. (VRC#B118, B119, B120, B121, B122)

26. In Table IV- J33, added, deleted or replaced citations that are applicable to S-67, 81, & 104, Tanks with an external floating roof with resilient toroid type primary seals and without a vacuum relief valve or emergency roof drain valve. (VRC#B118, B121, B122, B151, B152)

27. In Table IV- J11, added, deleted or replaced citations that are applicable to S-89, Tank with an internal floating roof with resilient toroid type primary seals and without a vacuum relief valve or emergency roof drain valve. (VRC#B118, B121, B122)

28. In Table IV- J13, added, deleted or replaced citations that are applicable to S-210, Tank with an internal floating roof with resilient toroid type primary seals and without an emergency roof drain valve. (VRC#B118, B121, B122)

29. In Tables IV-J3, J6 & J8, added, deleted or replaced citations that are applicable to S-59, 60, 61, 62, 72, 83, 84, 86, 92 & 163, Tanks with an external floating roof with slotted sampling or gauging wells and without a vacuum relief valve or emergency roof drain valve. (VRC#B118, B119, B120, B121)

30. In Tables IV-J4, J5, J9 & J32, added, deleted or replaced citations that are applicable to S-63, 64, 66, 68, 73, 74, 75, 67, 77, 78, 79, 80, 82, 85 & 207, Tanks with an external floating roof without a vacuum relief valve or emergency roof drain valve. (VRC#B118, B119, B121, B151, B152)

31. In Tables IV-J10, J34 & J35, added, deleted or replaced citations that are applicable to S-101, 103, 105 & 112, Tanks with an internal floating roof without a vacuum relief valve, secondary seal or emergency roof drain valve. Deleted Secondary Seal monitoring from Tables VII-J10 & 35 (VRC#B118, B119, B121, B131, B154, D82, D83)

32. Table IV-J7 was updated to reflect the new Regulation 8, Rule 5 (VRC#B124).

33. In Tables IV-J14, J17, J28, J36, J37, J38, J39 & J41, removed citations applicable to a floating roof tank and added citations for a fixed roof tank with vacuum relief

valves. Also on Tables IV-J28, J39 and J41, 8-5-328.1 & 328.1.2 were removed since these sources are under 75 cubic meters in volume. (VRC#B136, 142, 166, 168, 169, 170, 174, 176, 177, 179, 180)

34. In Tables IV-J15, J19, J20, J30, & J31.1, added 8-5-501.1 records citation for exempt tanks. (VRC#B137)

35. In Tables IV-J19 & VII-J19, deleted S-102 which is out of service. (VRC#B140, D96)

36. In Tables IV-J21 through J27, removed citations applicable to a floating roof tank and added citations for a fixed roof tank with vacuum relief valves, and removed 8-5-328.1 & 328.1.2 since these sources are under 75 cubic meters in volume. (VRC#B143, 144, 145, 146, 147 & 148)

37. In Table IV-J31.2, deleted citation 6-305 to be consistent with Section VII. (VRC#B150)

38. Updated BAAQMD Condition 14318, Part 5 for S-23, to reflect correct basis of 10-14. Also corrected basis in Table IV-A11. (VRC#C29)

39. Deleted out of service S-38 and S-39 from Table IIA, and deleted Table IV-A7 and Table VII-A7. Also corrected SB in Section C.II and F. (VRC#A4, B26, D13, G1, G21)

40. Added Part 51 and 52 to Condition 10574 based on BAAQMD Application 3782, Alkylate Production Project. Added Part 52 to Table IV-X for S-1007. Changed S-1007 to New Source Review in SB Attachment IV.

41. In Tables IV-A3, A6.1, A6.2, A10, A11, A12, A15, A16, A18 and A19, added Regulation 9-10-504.1 to clarify the applicability of 9-10-504. (VRC#B18)

42. In Table IV-6.3 for S-13 & S-50, deleted all Regulation 9, Rule 10 citations except 9-10-112 low fuel usage exemptions. (VRC#B25)

43. In Table IV-J4, added 8-5-522.3 and modified description of 8-5-522.5 for S-63, 66 & 68 to allow for the future installation of zero-gap secondary seals. (VRC#B123)

44. In Condition 19466, Part 7, changed the limit citation from 6-310.3 to 6-310. 6-310.3 is the method of applying 6-310 to heat transfer operations and only S-237 is a heat transfer operation. Made the appropriate changes in Section IV and VII. Also in Table VII-C4, deleted the 19466, Part 7 monitoring to comply with Regulation 6-311. Condition 19466, Part 9 is the 6-311 limit monitoring but it does not apply to S-160. (VRC#D59, 60)

45. Modified S-209, 210, 1024, and deleted S-211 in Table IIA in accordance with the MTBE Phaseout Project (A/N 2035) to allow the mandated year-end discontinuance of this gasoline additive. Revised Condition 9296 to allow S-209 and S-210 to store ethanol, added Parts E1 and E2 for S-1024, and made commensurate changes to Tables IV-B5, J13, X, VII-B5 and the SB Attachment I & VI. (VRC#A7, A14, A15, A21, B70, B112, B113, B133, C6, C8, & D53) Note: For this project, only selected changes to this permit have been made. A project of the magnitude of the MTBE Phaseout Project requires a modification to the Title V permit with the appropriate public comment period. However, the year-end mandate to end MTBE usage will occur prior to the permit modification, so key changes have been made to allow 2004 operation MTBE-free. The remaining permit changes associated with this project will be made in the upcoming permit modification.

46. In Tables IV-B1 and B2, deleted Regulation 6-305 for S-8, S-10, S-11 & S-12. This change was accepted previously (Re: Valero 2002 comment #1 on Section IV B), but was inadvertently not implemented.

47. In the flare monitoring Condition 20806, added Part 5, and an effective date of June 1, 2004 for Parts 1 through 4. Added the effective date in all the appropriate Table IVs.

48. Deleted Permit Shield 9-1-307 for S-1 and S-2 in Tables IX A-2 and A-3. Added 9-1-307 in Tables IV-A1 & A2. (EPA#15)

49. Deleted Condition 19466, Parts 2a and 2b in Section VI, Tables IV-H4.1, IV-H5.1, VII-H4.1 and VII-H5.1 because S-188 and S-189 vent to the refinery fuel gas system.

50. For S-188, S-189and S-208, added 40 CFR 61, Subpart FF, 61.340(a), (c) & (d) to Tables IV-H4.1 IV-H5.1 and IV-J41, deleted several non-applicable Subpart FF citations in Tables IV-H4.1, IV-H5.1, VII-H4.1, VII-H5.1 and IV-X. (VRC#B93, B94, B109, B178, D70, D72)

Section VI, Permit Conditions

1. Added Subpart UUU and Condition 20620 to Table IV – Refinery Generally Applicable Condition. Added 20762 (tank vapor pressure 8-5-117) to Table IV – Refinery Generally Applicable Requirements which Require Routine Monitoring. Also added condition 20620 and 20762 to Section VI. (GGU#46, VRC#B5, B8 & B19, EPA#187)

2. Changed Condition 19466, Part 4 (startup/shutdown notification) in Section VI to be consistent with text in Table IV – Refinery Generally Applicable Condition. (VRC#6, C52).

3. Added condition 18794 (Catalytic Reformer S-1004 capacity) to Section VI. (VRC#13)

4. Deleted BAAQMD condition 19466, Part 6 for all sources except S-5 and S-6. Modified 19466-6 in Section VI to be consistent with text in Table IV-A5&6. Deleted 19466, Part 6 from all other tables in Section IV. In Section VII, 19466-6 was deleted in Table VII-A1 & A2, and changed to 19466-7 for the remaining citations. (VRC#B11, B50, B75, C54, D51)

5. In Tables IV-6.1, 6.2, A10, A11, A12, A15, A16, A18, & A19, and in Section VI, revised Condition 19466, Part 10, to be consistent with the CO monitoring requirements in the associated tables in Section VII. Changed the frequency of S-35 CO source tests to annual, consistent with the policy for small units (<25MMBtu/hr). Changed Table VII-A6.2 to reflect annual testing for S-35. Also added missing Regulations 2-9-602, 603, & 604 to Section IV tables. (VRC#B21, B22, B23, B24, C58, C59, D11).

6. Revised Condition 10574, Part 21, and 16027, Part 10, to reflect the "no more than 3 minutes/hour" language of Regulation 6-301. Revised this condition in Tables IV-A10, A19, A20 and VII-A10, A19 to agree with this change. (VRC#B34, B47, C10, C30, D18)

7. Revised Condition 19466, Part 9, and text in Tables IV-A4 and A5 to reflect that it only applies to S-5 and S-6 (which was shown in Tables IV-A4 & A5, but not elsewhere in the permit). Deleted 19466, Part 9 from all other tables in Section IV and VII. (VRC#B50, B68, B77, C57, D51)

8. In Table IV-22.1 & 22.1, added BAAQMD Regulation 10-14 and 40CFR60.335(d) (22.1 only), revised Condition 19177, Part 18(d), 19(h) to agree with the text in Section VI, deleted Condition 19177, Part 32, 42 and 45. In addition, Condition 19177, Part 43 & 44 were revised to be consistent with the text of the Databank condition that was included with recent PTO 2488 (also changed in Section VI) (VRC#B54, 55, 56, 57, 59, 60, 61, 63, & 64).

9. In Tables IV-H4.2, H5.2, J36, J37, J39, changed error in Thermal Oxidizer ID from A-56 to A-57. Also made correction in Section VI, Conditions 11879, 11882, 11888 and 13319. (VRC#B96, B157, B165, B173 & C23)

10. Updated BAAQMD Condition 14318, Part 5 for S-23, to reflect correct basis of 10-14. Also corrected basis in Table IV-A11. (VRC#C29)

11. Added Part 16 to Condition 19466 to allow time for testing plans to be developed and any equipment to be installed.

12. Added Part 51 and 52 to Condition 10574 based on BAAQMD Application 3782, Alkylate Production Project. Added Part 52 to Table IV-X for S-1007. Changed S-1007 to New Source Review in SB Attachment IV.

13. In Condition 19466, Part 8, revised the S-1 and S-2 Regulation 6-330 source test to an annual frequency to be consistent with the other permits. Also revised Tables IV-A1 & A2 and VII-A1 & A2. (VRC#C56)

14. In Condition 19466, Part 7, changed the limit citation from 6-310.3 to 6-310. 6-310.3 is the method of applying 6-310 to heat transfer operations and only S-237 is a heat transfer operation. Made the appropriate changes in Section IV and VII. Also in Table VII-C4, deleted the 19466, Part 7 monitoring to comply with Regulation 6-311. Condition 19466, Part 9 is the 6-311 limit monitoring but it does not apply to S-160. (VRC#D59, 60)

15. In Condition 1709, Part 12, revised the concentration to 10,000 ppm consistent with Regulation 8-44-209. The 10,000 ppm was inadvertently changed during the last revision. (VRC#C3)

16. In Conditions 11879, 11882, 11888, and 13319, the Part 8 source test requirement was deleted in error and was reinstated. Updated Tables IV-J36, J37, J39, H4.2 and H5.2 as well. (VRC#B159, C24)

17. Modified S-209, 210, 1024, and deleted S-211 in Table IIA in accordance with the MTBE Phaseout Project (A/N 2035) to allow the mandated year-end discontinuance of this gasoline additive. Revised Condition 9296 to allow S-209 and S-210 to store ethanol, added Parts E1 and E2 for S-1024, and made commensurate changes to Tables IV-B5, J13, X, VII-B5 and the SB Attachment I & VI. (VRC#A7, A14, A15, A21, B70, B112, B113, B133, C6, C8, & D53) Note: For this project, only selected changes to this permit have been made. A project of the magnitude of the MTBE Phaseout Project requires a modification to the Title V permit with the appropriate public comment period. However, the year-end mandate to end MTBE usage will occur prior to the permit modification, so key changes have been made to allow 2004 operation MTBE-free. The remaining permit changes associated with this project will be made in the upcoming permit modification.

18. In the flare monitoring Condition 20806, added Part 5, and an effective date of June 1, 2004 for Parts 1 through 4. Added the effective date in all the appropriate Table IVs.

19. Deleted Condition 19466, Parts 2a and 2b in Section VI, Tables IV-H4.1, IV-H5.1, VII-H4.1 and VII-H5.1 because S-188 and S-189 vent to the refinery fuel gas system.

20. Deleted Condition 16027, Parts 20 and 21, which are duplicates to Condition 16386, Parts 1, 3 and 4.

Section VII, Monitoring Requirements

1. Added 12-11 flare regulations to Tables IV-A8.1, IV-A8.2 (exemption 12-11-110 only) and IV-A9. Added 12-11 regulations to Tables VII-A8(1) and VII-A9 (not VII-A8(2)

because S-17 Butane Flare is exempt from 12-11). (EPA#183, GGU#55, VRC#2, B28)

2. Replaced all obsolete 8-5-311.3 citations with 8-5-306 in Table IIC, Table VII-J18, Table VIII, and in the SB (VRC#A26, G36).

3. Revised Condition 11030, Part 3 NOx limit to 150 ppm in Tables IV-A3 and VII-A3 to be consistent with text in Section VI (VRC#B14).

4. In Tables IV-6.1, 6.2, A10, A11, A12, A15, A16, A18, & A19, and in Section VI, revised Condition 19466, Part 10, to be consistent with the CO monitoring requirements in the associated tables in Section VII. Changed the frequency of S-35 CO source tests to annual, consistent with the policy for small units (<25MMBtu/hr). Changed Table VII-A6.2 to reflect annual testing for S-35. Also added missing Regulations 2-9-602, 603, & 604 to Section IV tables. (VRC#B21, B22, B23, B24, C58, C59, D11).

5. Revised Condition 10574, Part 21, and 16027, Part 10, to reflect the "no more than 3 minutes/hour" language of Regulation 6-301. Revised this condition in Tables IV-A10, A19, A20 and VII-A10, A19 to agree with this change. (VRC#B34, B47, C10, C30, D18)

6. Added Regulation 6 citations and 8-2-301 to Tables IV-D1 and VII-D1 for S-29 Cooling Tower (EPA#177).

7. Revised Condition 19466, Part 9, and text in Tables IV-A4 and A5 to reflect that it only applies to S-5 and S-6 (which was shown in Tables IV-A4 & A5, but not elsewhere in the permit). Deleted 19466, Part 9 from all other tables in Section IV and VII. (VRC#B50, B68, B77, C57, D51)

8. Deleted BAAQMD condition 19466, Part 6 for all sources except S-5 and S-6. Modified 19466-6 in Section VI to be consistent with text in Table IV-A5&6. Deleted 19466, Part 6 from all other tables in Section IV. In Section VII, 19466-6 was deleted in Table VII-A1 & A2, and changed to 19466-7 for the remaining citations. (VRC#B11, B50, B75, C54, D51, D55)

9. In Table IV-H6 and VII-H6, clarified applicable citation from 8-5-501 to 8-5-501.1 and modified equipment name. (VRC#B101, B102, D75, D76)

10. In Tables IV-J19 & VII-J19, deleted S-102 which is out of service. (VRC#B140, D96)

11. In Table VII – Refinery, added 8-5-604, 40 CFR 61 Subpart FF 61.357(d)(6) and 61.357(d)(8) to the VOC Refinery-Wide Applicability Monitoring Requirements. (VRC#D2, EPA#199)

12. In Table VII-A11, changed O2 monitoring type from In situ analyzer to CEM. (VRC#D20).

13. In Table IV-A-6.3, A17, and VII-A6.3, A17changed the FE to N for 9-10-112 because the citation is different than the SIP approved version, and expanded the description to show the exemption is for fuel usage less than 90,000 therms/year. Also added more records and reporting requirements from Regulation 9-10 (VRC#B40, B42, D27, EPA#176).

14. In Table VII-E2, added S-165 monitoring for 8-7-301.6, 8-7-302.5 and 8-7-302.14, and corrected the monitoring type to Use CARB certified vapor recovery system. Also corrected SB, Section VII, POC sources, to indicate that S-165 vents to the Vapor Recovery System, not to the fuel gas system. (VRC#D64, D65, D66, G15)

15. In Tables VII-H1.1 & H1.2, expanded S-151 & 156 Monitoring Type with MOP, Volume III, Lab Method 33. (VRC#D68, D69)

16. In Tables IV-J10, J34 & J35, added, deleted or replaced citations that are applicable to S-101, 103, 105 & 112, Tanks with an internal floating roof without a vacuum relief valve, secondary seal or emergency roof drain valve. Deleted Secondary Seal monitoring from Tables VII-J10 & 35 (VRC#B118, B119, B121, B131, B154, D82, D83)

17. In Table VII-J13, removed deleted POC citation to Condition 9296, Part 2, and replaced it with the Rule 8-18 citations. (VRC#D86)

18. In Tables VII-J17, J21, J22, J23, J24, J25, J26, J27, J28, J36, J37 & J39, added monitoring requirements for pressure vacuum valves. (VRC#D92) Also added monitoring for 8-5-301 to Tables VII-J22 and J28 (VRC#D98, D99))

19. In Table VII-J31.1, added monitoring requirement for vapor pressure 8-5-117 (VRC#D100).

20. In Tables VII-J36, J37, J38, J39 & J40, corrected monitoring requirement for VOC limit 8-5-306 citation (VRC#D102).

21. In Table VII-J41, added row for 40 CFR 61, Subpart FF to clarify exemption due to emission routing to fuel gas system (VCR#D105).

22. Deleted out of service S-38 and S-39 from Table IIA, and deleted Table IV-A7 and Table VII-A7. Also corrected SB in Section C.II and F. (VRC#A4, B26, D13, G1, G21)

23. In Condition 19466, Part 7, changed the limit citation from 6-310.3 to 6-310. 6-310.3 is the method of applying 6-310 to heat transfer operations and only S-237 is a heat transfer operation. Made the appropriate changes in Section IV and VII. Also in Table VII-C4, deleted the 19466, Part 7 monitoring to comply with Regulation 6-311. Condition 19466, Part 9 is the 6-311 limit monitoring but it does not apply to S-160. (VRC#D59, 60)

24. In Table VII-E2, deleted Regulation 8-7-301.10 VOC citation because it is not an operating limit and does not have a monitoring requirement. (VRC#D63)

25. In Tables VII-J14, J16, J17, J18 & J41, revised the monitoring type column for the Regulation 8-5-306 monitoring to "No monitoring – vented to fuel gas recovery system". Made similar change in Table VII-J18 for 60.112b(a)(3)(ii) monitoring. (VRC#D88, D95)

26. In Tables VII-J32 and J33, deleted pressure vacuum relief valve monitoring requirements 8-5-303.1 & 303.2 because these tanks do not have them. (VRC#D101)

27. Deleted Condition 19466, Parts 2a and 2b in Section VI, Tables IV-H4.1, IV-H5.1, VII-H4.1 and VII-H5.1 because S-188 and S-189 vent to the refinery fuel gas system.

28. For S-188, S-189and S-208, added 40 CFR 61, Subpart FF, 61.340(a), (c) & (d) to Tables IV-H4.1 IV-H5.1 and IV-J41, deleted several non-applicable Subpart FF citations in Tables IV-H4.1, IV-H5.1, VII-H4.1, VII-H5.1 and IV-X. (VRC#B93, B94, B109, B178, D70, D72)

Section VIII, Test Methods

1. Added 40 CFR Subpart A, 60.18(c)(1) to Table VIII. Added 60.18 to Tables IV-A8.1, IV-A8.2 and IV-A9. (GGU#48)

2. Replaced all obsolete 8-5-311.3 citations with 8-5-306 in Table IIC, Table VII-J18, Table VIII, and in the SB (VRC#A26, G36).

3. In Table VIII, added missing Test Methods for BAAQMD Regulation 6-303, 6-330, 8-5-301, 8-5-501.1, 8-5-303.2, 8-5-306, 8-5-307, 8-5-328.1.2, 8-7-301.6, 8-7-302.5,8-7-302.8, 8-7-302.12, 8-7-302.13, 8-7-313.3, 8-7-302.14, 8-8-114, 8-8-501, 8-8-303, 8-28-304.2, 8-44-303, 9-10-313.2, 9-10-303. Also added missing Test Methods for 40 CFR 60 Subpart GG 60.333 (b), 40 CFR 60 Subpart VV 60.485(d) & (e), and 40 CFR 61 Subpart FF 61.355(c)(3), (h) & (i). (VRC#E1)

4. In Table VIII, deleted Test Method for 8-46-301 & 304.1 since Regulation 8, Rule 46 is not part of the permit. (VRC#E13)

Section IX, Permit Shield

1. Deleted Permit Shield BAAQMD Condition 19177-38 for 40 CFR 60 Subpart Db 60.48b(e)(2) and (3) in SOB Table IX B – 10.1, S1030 and S1032. This table is now

consistent with Table IX B – 10.1 in the Permit. GGU comment #21 (APV#11)

2. Removed the following Permit Shields. (GGU#75 and 76, EPA#16a) This is actually three Permit Shield comments:

a. On Table IX B – 24, Remove Permit Shield 8-18-302 for 11-7-307. The Subsumed Description is regarding the timing of leaking valve repairs. Since this is not a monitoring requirement, it is invalid. Further, 11-7-307.1 through 307.5 contain a variety of repair and monitoring criteria, some of which are covered elsewhere in the Permit Shield table. 8-18-302 contains nothing about monitoring.

b. On Table IX B – 24, Remove Permit Shield 8-18-404 for 11-7-307.3. 8-18-404 allows an alternative inspection schedule of annual (from monthly) if 5 quarters leak free and approved by the APCO. 11-7-307.3 says any valve in benzene service with no detectable emissions is exempt from Section 307 (repair schedule and monitoring exemptions) if unactuated and inspected annually and upon request.

c. On Table IX B – 24, Remove Permit Shield 8-18-401.3 for 11-7-307.5. 8-18-401.3 says inaccessible valves and pressure relief devices can be inspected annually. 11-7-307.5 says any benzene service valve that requires an inspector's elevation change more than 2 meters can be inspected annually.

There are also other comments that result in corrected mistakes in this Permit Shield comment by Golden Gate University paragraph 3:

d. On Table IX B – 24, Remove Permit Shield 8-18-303 for 11-7-302 & 303. The Subsumed Description is regarding the timing of leaking valve repairs. Since this is not a monitoring requirement, it is invalid. Further, 11-7-302 & 303 include exemptions to the monitoring requirements, contained elsewhere in Rule 11-7, and 8-18-303 contains nothing related to monitoring. (GGU#74, EPA#16a)

e. Remove Permit Shield 8-18-304 for 11-7-308. The Subsumed Description is regarding the timing of leaking flange and connection repairs. Since this is not a monitoring requirement, it is invalid. In addition, 11-7-308 also covers pressure relief devices in liquid benzene service. 8-18-304 does not cover pressure relief devices. (GGU#77 & 78, EPA#16a)

3. On Table IX B – 24 & 25, Remove Permit Shield 8-18-306.1 for 11-7-310.2 & 310.3. Corrects a mistake. The Subsumed Description is regarding the timing of leaking equipment repairs when non-repairable. Since this is not a monitoring requirement, it is invalid. 8-18-306.1 says non-repairable valves, pressure relief devices, pumps and compressors must be repaired or replaces with in 5 years or in the next turnaround. 11-7-310.2 says repair of valves in benzene service may be delayed if the emissions from an immediate repair are greater than a delayed repair. 11-7-310.3 says the repair of non-repairable valves in benzene service can be delayed to the next process unit turnaround, if this next turnaround occurs in less than 6 months, if there is a parts

problem during the repair during the first process unit turnaround. (GGU#79 & 80, EPA#16a)

4. In Table IX B – 10.1, added permit shield 40 CFR 60, Subpart GG, 60.335(d), daily grab samples for fuel gas monitoring, subsumed by BAAQMD Condition 19177, Part 35, which requires a CEM for fuel gas H_2S and TRS content. (VRC#F3)

5. In Table IX B – 10.2, added permit shield 40 CFR 60, Subpart Db, 60.44b(i), 30-day rolling average for NOx limit, subsumed by BAAQMD Regulation 10-4, NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, which requires 24-hour maximum limit as the NOx averaging period. (VRC#F4)

6. Added Table IX A-4 showing non-applicable permit shield 40 CFR 60 Subpart J for S-5 FCCU R-702. (EPA#180)

7. Deleted Permit Shield 9-1-307 for S-1 and S-2 in Tables IX A-2 and A-3. Added 9-1-307 in Tables IV-A1 & A2. (EPA#15)

Summary of the Revisions to this Statement of Basis:

1. Modified Permit Shield Table IX B – 3 in the SB to be consistent with Tables IX B – 24 and 25 in the Permit. (Based on GGU#74-80).

2. Added "Grandfathered Source" to S-55, 74, 159 and "New Source Review" to S-239 in Table IIA and SB Attachment I, consistent with SB Attachment IV. Also added 3100 gal for S-239 capacity (VRC#A6, A16, G26 & G37).

3. Corrected capacity of S-108 from kgal to gal in Table IIA and SB Attachment I (VRC#A8 & G27)

4. Edited Description text of S-151 in Table IIA and SB Attachment I (VRC#A9).

5. Modified Throughput text for S-156 in Table IIA and SB Attachment I (VRC#A10).

6. Corrected capacity of S-170 in Table IIA and SB Attachment I (VRC#A11).

7. Changed S-243, 1006 & 1007 from Grandfathered to New Source Review in Table IIA and SB Attachment I (VRC#A19 & G31).

8. For S-1004, modified capacity and throughput text, adding reference to Condition 18794, Part 1, and changed Grandfathered to New Source Review in Table IIA and SB Attachment I and IV(VRC#A20).

9. Corrected capacity of S-109 in Table IIB and SB Attachment II (VRC#A22).

10. Added S-3 and S-4 sootblowing exception 6-304 to A-1, 2, 3, 4 & 5 in Table IIC and SB Attachment III (VRC#A24, G35).

11. Replaced all obsolete 8-5-311.3 citations with 8-5-306 in Table IIC, Table VII-J18, Table VIII, and in the SB (VRC#A26, G36).

12. Added A-24 (Tail Gas Hydrogenation) to Table II C and SB Attachment III and modified description of A-56. At one time A-24 was included in A-56 but this did not get total incorporation, so A-24 will be delineated on its own. (VRC#A27 & 28)

13. Deleted out of service S-38 and S-39 from Table IIA, and deleted Table IV-A7 and Table VII-A7. Also corrected SB in Section CII and F. (VRC#A4, B26, D13, G1, G21)

14. In Section IV, modified the paragraphs that identify and discuss the relationship between Valero Refining and Valero Asphalt to reflect the new name and facility number for the Asphalt Plant. (VRC#G3)

15. In Section C.VII, SO2 Sources table, deleted the row for S-1002 and S-1003, which are not users of liquid fuel. (VRC#G6)

16. In Section C.VII, SO2 Sources table, revised the S-1 and S-2 9-1-313.2 monitoring to annual (from semi-annual) to agree with BAAQMD Condition 19466, Part 1. (VRC#G8)

17. In Section C.VII, PM Sources table, removed the S-3 and S-3 from the 6-301 monitoring. These sources are vented through the main stack which has continuous opacity monitoring. (VRC#G9)

18. In Section C.VII, PM Sources table, added S-243 and revised the limit citation to 6-303.1 to agree with Table VII-A21 and VII-A23 in the permit. (VRC#G10)

19. In Section C.VII, PM Sources table, deleted 6-310 rows for S-16, 17, 18, 19 flares. Consistent with permit Tables IV-A8.1 and 8.2, these sources are not subject to 6-310. (VRC#G11, EPA#184)

20. In Section C.VII, PM Sources table, deleted 8-2-301 and 6-301 monitoring for S-160 to be consistent with Condition 19466, Part 2c & 3. (VRC#G14)

21. In Table VII-E2, added S-165 monitoring for 8-7-301.6, 8-7-302.5 and 8-7-302.14, and corrected the monitoring type to Use CARB certified vapor recovery system. Also corrected SB, Section C.VII, POC sources, to indicate that S-165 vents to the Vapor Recovery System, not to the fuel gas system. (VRC#D64, D65, D66, G15)

22. In Section C.VII, POC Sources table, deleted 8-5-311.1 monitoring for S-150, S-199 and S-200 to be consistent with the source test requirements in Tables VII-J39 and VII-J37. (VRC#G18)

23. In Section C.VII, POC Sources table, deleted 8-5-311.1 (aka 8-5-306) monitoring for S-193, S-196, S-205 and S-206 to be consistent with the source test requirements in Tables VII-J38 and VII-J40. (VRC#G19)

24. In Section C.VII, POC Sources table, deleted 8-2-301 monitoring for S-1027 to be consistent with Table IV-B8. (VRC#G20)

25. Added Part 51 and 52 to Condition 10574 based on BAAQMD Application 3782, Alkylate Production Project. Added Part 52 to Table IV-X for S-1007. Changed S-1007 to New Source Review in SB Attachment IV.

26. Modified S-209, 210, 1024, and deleted S-211 in Table IIA in accordance with the MTBE Phaseout Project (A/N 2035) to allow the mandated year-end discontinuance of this gasoline additive. Revised Condition 9296 to allow S-209 and S-210 to store ethanol, added Parts E1 and E2 for S-1024, and made commensurate changes to Tables IV-B5, J13, X, VII-B5 and the SB Attachment I & VI. (VRC#A7, A14, A15, A21, B70, B112, B113, B133, C6, C8, & D53) Note: For this project, only selected changes to this permit have been made. A project of the magnitude of the MTBE Phaseout Project requires a modification to the Title V permit with the appropriate public comment period. However, the year-end mandate to end MTBE usage will occur prior to the permit modification, so key changes have been made to allow 2004 operation MTBE-free. The remaining permit changes associated with this project will be made in the upcoming permit modification.

APPENDIX A
BAAQMD COMPLIANCE REPORT

APPENDIX B

BAAQMD Policy Memorandum: NOx, CO, and O2 Monitoring Compliance with Regulation 9, Rule 10

BAAQMD OFFICE MEMORANDUM

Revised 4/10/03
Supercedes Memo dated June 23, 2000

TO: REFINERY ENGINEERS

FROM: BILL DE BOISBLANC via: Steve Hill
[Original signed and approved on 4/11/03] Barry Young
Greg Solomon

SUBJECT: NO_X, CO, AND O_2 MONITORING COMPLIANCE WITH REGULATION 9, RULE 10

This policy is being revised in order to address situations that have arisen with regard to the enforceability of the previous memo. The revised policy clarifies that a source must be operated within the demonstrated NOx Box and more clearly defines how the NOx Box is to be established and modified. Also the revised policy addresses source test notification and submittal timelines. Furthermore, this revised policy more clearly establishes areas of non-compliance and the appropriate enforcement action to be taken. Moreover, the revised policy has a NOx CEM requirement when operation deviates beyond the scope of this policy.

This is a policy recommendation for emission monitoring requirements for those petroleum refinery heaters, furnaces, and boilers that are subject to the refinery NO_x rule, Regulation 9, Rule 10.

Rule 9-10 is the Best Available Retrofit Control Technology (BARCT) rule that limits the emissions of NO_x and CO from boilers, steam generators, and process heaters in petroleum refineries. Section 9-10-502 requires NO_x, CO, and O_2 CEMs or "equivalent" verification on affected combustion units. Regulation 9-10 was not intended to obtain CO emission reductions. The 400 ppmv CO limit in the rule was included only to prevent sources from emitting higher CO emissions as a result of implementing NO_X controls. Thus, the CO CEM equivalence verification standard does not need to be as stringent as that for NO_x monitoring equivalency.

I. Affected Combustion Units Abated by SCR or SNCR:

For combustion units abated by "add-on control" equipment, such as SCR or SNCR, the following guidelines are minimum acceptance criteria for Section 9-10-502 monitoring plans.

1. Abated combustion unit emissions shall be monitored continuously by a CEM that measures NO_x and O_2. Compliance with Rule 9-10 will be determined using measured emissions.

2. Abated combustion units with expected emissions $\geq$200 ppmv CO at 3% O_2 shall be monitored continuously by a CEM that measures CO. Compliance with Rule 9-10 will be determined using measured emissions.

3. For abated combustion units with demonstrated emissions < 200 ppmv CO at 3% O_2, the owner/operator of the units must have District-approved CO source tests done on a semi-annual basis with at least one of the source tests deemed by the District to be representative of normal operation. The time interval between source tests shall not exceed 8 months. District conducted CO emission tests associated with District-conducted NO_x CEM field accuracy tests may be substituted for the CO semi-annual source tests.

a) If two or more of the CO source test results, over any consecutive five year period, are ≥ 200 ppmv CO at 3% O_2, the owner/operator is required to install and operate a CEM to continuously measure CO. Otherwise, a CO CEM shall not be required. The owner/operator shall be given the time period allowed in the District's Manual of Procedures to have the CO CEM installed and properly operating.

Other Monitoring Requirements:

4. Each fuel line of each affected unit shall be equipped with a fuel-flow meter as required by section 9-10-502.2.

5. Records shall be kept as required by section 9-10-504, except the records shall be retained for a period of five years from date of entry.

II. Affected Combustion Units not abated by SCR or SNCR and Unmodified Combustion Units without NO_x control:

For combustion units, which are controlled by low-NO_x burners and/or flue gas recirculation and not abated by add-on NO_x control equipment and unmodified combustion units without NO_x control, the following guidelines are minimum acceptance criteria for section 9-10-502 monitoring plans. For units which are vented to a common stack, the maximum rated heat input shall be the combined sum of the maximum rated heat inputs of each of the units for the purposes of determining which of the below monitoring requirements apply. However, if the District Source Test Manager and Permit Evaluation Manager approve that the ducting configuration and testing ports/platforms allow for accurate source testing of each individual unit vented to the common stack, then the maximum rated heat input of each individual unit shall be used for the purposes of determining which of the monitoring requirements apply.

A. Large-Sized Units (>= 200 million Btu/hour):

The guidelines for combustion units with maximum rated heat capacity ≥ 200 million Btu/hour shall be the same as those shown above for Affected Combustion Units Abated by SCR or SNCR.

B. Medium-Sized Units with NO_x and O_2 CEMs (>=25 million Btu/hour and < 200 million Btu/hour)

The guidelines for medium-sized units with NO_x and O_2 CEMs shall be the same as those shown above for Affected Combustion Units Abated by SCR or SNCR.

C. Medium-Sized Units without NO_x and O_2 CEMs (>= 25 million Btu/hour and < 200 million Btu/hour):

1. For combustion units without NO_x and O_2 CEMs with a maximum rated heat capacity >= 25 million Btu/hour and < 200 million Btu/hour:

   To comply with section 9-10-502, the owner/operator of these units shall install a CEM or an "equivalent" verification system. In lieu of a CEM, the owner/operator of these units must have District-approved NO_x, CO, and O_2 source tests done on a semi-annual basis. This equivalent verification system must include all of the following

- NOx BOX ESTABLISHMENT SOURCE TESTING REQUIREMENT: The source tests to establish the NOx Box shall be conducted as follows:

  a) The tests will establish the "NOx Box" with these four conditions as the corners: (1) low fire/low O_2, (2) low fire/high O_2, (3) high fire/low O_2, and (4) high fire/high O_2, to demonstrate the emissions over the full-range of operation of the units. The boundaries of the Box will be determined by connecting the four corners with straight lines. The emission rates or emission factors for all operation inside the box will be (1) the highest measured rate or factor for any source test, or (2) a higher emission rate or emission factor requested by the owner/operator.

     - Any deviation outside of the established NOx Box will require an additional source test within 45 days of the deviation.
     - If the additional source test demonstrates that NOx and/or CO emissions are below the Box levels, the owner/operator MAY use the test results to establish a new corner by submitting an application to modify the permit.
     - If the additional source test demonstrates that the NOx and/or CO emissions are above the Box levels, the earlier deviation(s) will be considered a violation of the original NOx Box emission factor (per either Reg.2-1-307/9-10-502). The owner/operator will not be cited for exceeding the NOx and/or CO emissions during the source test. The owner/operator MAY use the test results to establish a new emission rate or emission factor by submitting an application to modify the permit.
     - The higher emission factor will be used to determine compliance with Regulation 9-10 rolling back to the date of the first deviation.
     - Any deviation beyond the established NOx Box will require immediate (within 96 hours of occurrence) notification to the Enforcement Division.
     - Changing the full-range of the NOx Box or the NOx emission factor will require the submittal of an application that will be considered a modification and shall require the payment of the appropriate modification fees in Regulation 3.
     - Any deviation greater than 20% will be considered a violation of the NOx Box permit conditions and section 9-10-502 regardless of whether the deviation is later determined to be in compliance with the original NOx emission factor.
     - If a source has two or more greater than 20% deviations within a consecutive five year period, the owner/operator of the source will be required to install NOx and O2 CEMs.
     - Any two violation notices relating to NOx emissions within a consecutive five year period for any specific combustion unit will also require the installation of NOx and O2 CEMs.
     - All source tests and source test methods shall be pre-approved by the district, and the district shall have prior notification of the all test dates in accordance with the District Manual of Procedures (MOP). All source test results shall be submitted to the district within 30 days of the test. All source test results shall be approved by the district.

- The NOx Box limits DO NOT APPLY during pre-approved source tests to establish a larger Box or new emission rate/emission factor provided that the original NOx Box has not had a deviation. This provision is to allow a facility to proactively establish either a new NOx Box or a new emission rate/factor without being cited.

- SUBSEQUENT SOURCE TEST REQUIREMENTS: Subsequent to the initial source tests, semi-annual source tests shall be conducted as follows:

  a) Two NO_x, CO, and O_2 source tests per year shall be conducted at the as-found firing rate (within the NOx Box), within 20% of the permitted O_2 conditions likely to maximize NO_x emissions. If two source tests within any consecutive five year period exceed the NOx emission factor then the owner/operator of the source shall install a NOx and O2 CEMs. The time interval between tests shall not exceed 8 months.

     If a source test demonstrates that the source is not in compliance with the NOx emission rate/factor, then the facility is considered in violation of the NOx emission rate/factor. The higher emission rate/factor will be used to determine compliance with Regulation 9-10 rolling back to the last complying source test date.

  b) Two additional semi-annual NO_x, CO, and O_2 source tests are required at conditions likely to maximize CO at the as-found firing rate within the established NOx Box, for those units for which any of the initial test results or any semi-annual test result of the unit during the past five consecutive year period are >= 200 ppmv CO at 3% O_2. The time interval between tests shall not exceed 8 months.

- Those sources with FGR must also bracket the range of FGR rates as part of the test matrix.

- PERMIT CONDITIONS: The District will impose the following permit conditions:

  a) Conditions establishing the daily average operating range (or the demonstrated four corner NOx Box). The facility will be allowed up to a 20% deviation from the originally demonstrated NOx Box provided that a district pre-approved source test is conducted within 45 days of the deviation demonstrating whether the deviation complies with the original NOx emission factor or not. The District Enforcement Division shall be notified immediately (within 96 hours of occurrence) upon deviation of the NOx Box. Source test results shall be submitted to the district for approval within 30 days of the source test date. The owner/operator shall submit an application for changes in either the NOx Box or the NOx emission rate/factor, if appropriate.

     This requirement shall not apply to low firing rate conditions during startup or shutdown periods less than 3 days.

     (1) If the results of the source test for the deviation exceed the permitted emission concentrations or emission rates, the unit will be considered to have been in violation for each day it operated outside of the defined operating range.

  b) A condition limiting unit emissions to the NO_x concentrations or rates in the Regulation 9, Rule 10 control plan. The permit conditions will be used for demonstrating compliance with Rule 9-10. As mentioned above, any change in the

NOx concentrations or rates (NOx emission factor) shall require the submittal of an application and be treated as a modification.

- CO CEM REQUIREMENT:

If any two source test results, over any consecutive five year period, are $\geq$ 200 ppmv CO at 3% O_2, the owner/operator is required to install and operate a CEM to continuously measure CO and O_2. Otherwise, a CO and O_2 CEM shall not be required. The owner/operator shall be given the time period allowed in the District's Manual of Procedures to have the CEM installed and properly operating.

D. Small-Sized Units (< 25 million Btu/hour):

1. The owner/operator of these small-sized units must have District-approved NO_x, CO, and O_2 source testing done on an annual basis. This annual source testing must meet all the following:
   - Deemed by the District to be representative of normal operation.
   - The District will impose permit conditions, limiting unit emissions to the NO_x concentrations reported in the refinery NOx Control Plan for the unit and limiting unit firing rates to less than 25 million Btu/hour. The permit conditions will be used for demonstrating compliance with Rule 9-10. Any revision of the control plan will be considered a permit condition modification and will require the refinery to submit a permit application to the District.

Other Monitoring Requirements:

2. Each fuel line of each affected unit shall be equipped with a fuel-flow meter as required by Section 9-10-502.2.
3. Records shall be kept as required by Section 9-10-504, except the records shall be retained for a period of five years from date of entry.

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APPENDIX C
GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority that allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CEC
California Energy Commission

CEQA
California Environmental Quality Act

CFP
Clean Fuels Project

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO
Carbon Monoxide

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

GLM
Ground Level Monitor

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP
The District's Manual of Procedures.

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NOx
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

O2
Oxygen

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

RFG
Refinery Fuel Gas

RMG
Refinery Make Gas

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and

developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2
Sulfur dioxide

THC
Total Hydrocarbons (NMHC + Methane)

Therm
100,000 BTU's

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC
Total Organic Compounds (NMOC + Methane, Same as THC)

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Plan

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m^2	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu

MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

APPENDIX D

COOLING TOWER EMISSION CALCULATIONS

Cooling Tower Emission Calculations

At the request of the BAAQMD, each refinery submitted information on their facilities cooling towers. In the calculations to determine compliance with BAAQMD Regulation 6, Regulation 8-2, and the Code of Federal Regulations (CFR) for Miscellaneous Process Vents (40 CFR, Subpart CC), only the cooling tower circulating water flow rates and exhaust airflow rates are used. Although the refineries may have supplied additional information, such as drift and total dissolved solids (TDS), EPA AP-42 Compilation of Air Pollution Emission Factors were used to calculate conservative emissions of PM10 and POC. Emission factors from EPA AP-42 Chapter 13.4 Wet Cooling Towers and Chapter 5.1 Petroleum Refining were used as described below.

PM10 Calculations
AP-42 Table 13.4-1 contains the emission factor of 0.019 lb PM10 per 1000 gallons of circulating water for induced draft cooling towers. Assuming the cooling tower operates continuously (24 hours per day, 365 days per year), the annual emission of PM10 is calculated by multiplying the circulating water flow rate by the emission factor. Before determining the grain loading of PM10 in the exhaust air, the reported or actual flow rate must be converted to a dry standard basis at a temperature of 70 degrees F, a pressure of one atmosphere, and no moisture. Since the cooling tower vents to the atmosphere, standard temperature and pressure were assumed. To determine the water content in the exhaust, the drift (water droplets) is calculated by using the emission factor 0.02% gallons of drift per gallon of circulating water (AP-42 Table 13.4-1). The amount of water in the exhaust or drift is divided by the actual total flow rate to determine the volume faction of water in the exhaust. The actual flow rate (acfm) is then converted to the dry standard airflow rate (dscfm). Since the exhaust flow rates are very large, the volume fraction of water is negligible.

dscfm = acfm x (460 R + 70 F)/(460 R + temp in F) x (actual P/ 14.7 psi) x (1- volumetric fraction of water vapor)

dscfm = dry cubic feet per minute at standard conditions (14.7 psi and 70 degrees F)
acfm = actual cubic feet per minute
R = temperature (degrees Rankine)
F = temperature (degrees Fahrenheit) = 70 F
P = pressure (psi) = 14.7 psi

Grain loading is calculated by dividing the PM10 (lb/min) by the exhaust flow rate (dscfm). The data for the grain loading (gr/dscfm) for the refineries show that the highest loading is 0.0067, which is well below the limit of 0.15 dscfm of Regulation 6. Since the conservative estimate of the grain loading is well below the limit, monitoring is not required.

POC Calculations
AP-42 Table 5.1-2 contains the emission factor of 6 lb POC per 1,000,000 gallons of circulating water. This emission factor is very conservative since it is used for 'uncontrolled' emissions. (The controlled emission factor is 0.7 lb of POC per 1,000,000 gallons of circulating water.) Again, assuming the cooling tower operates continuously (24 hours per day, 365 days per year), the annual emission of POC is calculated by multiplying the circulating water flow rate by the emission factor. To convert pounds of POC to volume of POC, the ideal gas law is used.

V = nRT/P

V = volume (cubic feet = ft3)
R = 0.73 atm*ft3/lb-mole*R
T = (460 + temp in F) = (460 + 70)
P = pressure (atm) = 1 atm
n = lb-moles = pounds of POC/12 lb per lb-mole of carbon

A conservative calculation of lb-moles of POC is obtained by dividing the pounds of POC by 12 lb per lb-mole of carbon. Individual organic species will have a higher molecular weight, thereby increasing the denominator and decreasing the POC emission. To obtain POC emissions in the exhaust, the volume of POC is divided by the airflow. The actual airflow (acfm) is converted to dry standard airflow (dscfm) as described in the PM10 emission calculation. From the refinery data, the maximum concentration of POC is 9.67 ppm, which is much lower than the limit of 300 ppm in Regulation 8, Rule 2. Since the conservative calculation of the POC concentration in the cooling tower is much lower than the limit of 300 ppm, monitoring is not required.

40 CFR, Subpart CC, defines a Miscellaneous Process Vent as a gas stream that contains greater than 20 ppm by volume organic HAP that is continuously or periodically discharged during normal operation. As shown in the refinery data, if the POC emission consists of a single HAP, the maximum concentration is less than 10 ppm. The cooling tower exhaust does not qualify as a process vent and 40 CFR, Subpart CC does not apply to cooling towers.

ATTACHMENT I

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
S-1	Claus - modified 3 stage; Burns Multi-fuel; (SULFUR PLANT 'A' TRAIN ACID GAS BURNER, F-1301A)	Burners: John Zink Co.	Burners (4): DB-0-24	160 short tons/day	58,400 short tons/year (Grandfathered Source)
S-2	Claus - modified 3 stage; Burns Multi-fuel; (SULFUR PLANT 'B' TRAIN ACID GAS BURNER, F-1301B)	Burners: John Zink Co.	Burners (4): DB-0-24	160 short tons/day	58,400 short tons/year (Grandfathered Source)
S-3	Industrial Boiler - Other, Carbon monoxide, Refinery make gas (RMG) (PROCESS FURNACE, CRUDE PREHEAT, F-101)	Burners: John Zink Co.	Burners (3): YS-30	83.88 ktherms/day fuel gas (349.5 MMBTU/hr) 43.2 ktherms/day CO flue gas (179.8 MMBTU/hr)	30.6 MM therms/year fuel gas (349.5 MMBTU/hr) 15.7 MM therms/year CO flue gas (179.8 MMBTU/hr) (Grandfathered Source)
S-4	Industrial Boiler - Other, Carbon monoxide,	Burners: John	Burners (3): YS-22	40.75	14.9 MMtherms/year

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S-#	Description	Make or Type	Model	Capacity	Throughput
	Refinery make gas (RMG) (PROCESS FURNACE, REDUCED CRUDE PREHEAT, F-102)	Zink Co.		ktherms/day fuel gas (169.8 MMBTU/hr) 21.45 Ktherms/day CO flue gas (89.4 MMBTU/hr)	fuel gas (169.8 MMBTU/hr) 7.8 MM therms/year CO flue gas (89.4 MMBTU/hr) (Grandfathered Source)
S-5	Fluid cat cracker, FCC fresh feed, (FCCU REGENERATOR R-702)	Custom	N/A	77.2 kBBL/day fresh feed (actual)	27.0 MMBBL/year fresh feed (actual 180 day average. of 74.1 kbbl/day) (Grandfathered Source)
S-6	Fluid coking - general, Coker fresh feed, (COKER BURNER R-902)	ER&E	N/A	39.6 kBBL/day fresh feed (design safety valve limit)	14.5 MMBBL/BBLyear fresh feed (39.6 kBBL/day) (Grandfathered Source)
S-7	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, JET FUEL HYDROFINING, F-103)	Burners: John Zink Co.	Burners (4): HEVD-18	12.72 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 53 MMBTU/hour) (Regulation 9, Rule 10 Compliance Plan)	4.64 MMtherms/year (annual throughput is based on an demonstrated actual hourly maximum firing rate of 53 MMBTU/hour) (Grandfathered Source)
S-8	Fluid coking - transportation, Coker product, (Coke Silos Primary Scrubber, Cyc 1901)	GE ESI	Model #35; Series 412M	2400 tons/day (based on 100 tons/hour)	613.2 ktons/year. (based on 70 tons/hour) (Grandfathered Source)
S-9	Blow-down system - w/o control, Crude oil (Vapor Recovery System)	Custom	N/A	135 kBBL/day permit limit	49.3 MMBBL/year (135 kbbl/day) (Grandfathered Source)
S-10	Loading - storage tank, Minerals -other/not spec, (CATALYST RAILCAR	Flexcleen	84 CT 18	240 tons/day (based on 10	1825 tons/year (based on an average of 5

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
	UNLOADING BAG FILTER 2701)			tons/hour)	tons/day) (Grandfathered Source)
S-11	Storage, Carbon black, (Activated Carbon Bin TK-2061)	Custom	N/A	2.4 tons/day (based on 0.1 tons/hr)	292 tons/12-months (Condition #9897) (New Source Review)
S-12	Storage - contained, Lime, (Lime Silo 2303)	Custom	N/A		550 tons (actual) (Grandfathered Source)
S-13	Process Heater/Furnace, Refinery make gas (RMG) (Direct Fired Air Heater, Aux. Burner, F-702)	John Zink Co.	Burner (1): Z-38	14.4 ktherms/day (daily capacity is based on a burner design value of 60 MMBTU/hr)	Startup burner: No annual throughput limit is needed. (Grandfathered Source)
S-16	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (ACID GAS FLARE)	John Zink Co.	16" tip	0.084 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 0.35 MMBTU/hour)	30.66 ktherms/year (based on actual hourly maximum firing rate of 0.35 MMBTU/hour) Pilot gas only (Grandfathered Source)
S-17	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (BUTANE FLARE, ST-1701)	John Zink Co.	Burners (2): STF-LH-127-30HF	0.024 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 0.10 MMBTU/hour)	8.76 ktherms/year (based on actual hourly max firing rate of 0.1 MMBTU/hour) Pilot gas only (Grandfathered Source)
S-18	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (SOUTH FLARE, ST-2101)	John Zinc Co.	Burner: STF-SAS-1	0.336 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing	122.6 ktherms/year (based on actual hourly maximum firing rate of 1.4 MM BTU/hour) Pilot gas only (Grandfathered Source)

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
				rate of 1.40 MMBTU/hour)	
S-19	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (NORTH FLARE ST-2103)	John Zinc Co.	Burner: STF-SAS-1	0.336 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 1.40 MMBTU/hour)	122.6 ktherms/year (based on actual hourly maximum firing rate of 1.4 MM BTU/hour) Pilot gas only (Grandfathered Source)
S-20	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, NAPTHA HYDROFINING, F-104)	Custom	Burners (6): John Zink VYD-18	14.88 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 62 MM/BTU/hour) (Reg 9 Rule 10 Compliance Plan)	5.43 MMtherms/year (throughput is based on an demonstrated actual hourly maximum firing rate of 62 MMBTU/hour) (Grandfathered Source)
S-21	Furnace - Other, Refinery make gas (RMG) (Hydrogen Reformer Furnace, F-301)	Custom	Burners: 980	147.36 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 614 MMBTU/hour) (Regulation 9, Rule 10 Compliance Plan)	106 MMtherms/365-days (combined w/S-22) (average of 605 MMBTU/hour per furnace) (Condition #10574-37) (New Source Review)
S-22	Furnace - Other, Refinery make gas (RMG) (Hydrogen Reformer Furnace, F-351)	Custom	Burners: 980	147.36 ktherms/day (daily capacity	106 MMtherms/365-days (combined w/S-21) (average of

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
				is based on an demonstrated actual hourly maximum firing rate of 614 MMBTU/hour) (Regulation 9, Rule 10 Compliance Plan)	605 MMBTU/hour per furnace) (Condition #10574-37) (New Source Review)
S-23	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, GAS OIL HYDROCRACKING, F-401)	Custom	Burners (20): John Zink Lonox LNV-PC-70	200 MMBTU/hour for any 1 hour period; 44.4 ktherms/day (average of 185 MMBTU/hour) (Condo. #14318) (Regulation 9, Rule 10 Compliance Plan)	16.21 MMtherms/year (average of 185 MMBTU/hour) (New Source Review)
S-24	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, CAT FEED HYDROFINING, F-601)	Custom	Burner (1): Exxon 50J	7.92 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 33 MMBTU/hour) (Regulation 9, Rule 10 Compliance Plan)	2.89 therms/year (throughput is based on an demonstrated actual hourly maximum firing rate of 33 MMBTU/hour) (Grandfathered Source)
S-25	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, CAT FEED	Custom	Burners (20): John Zink DBA-22	55.2 ktherms/day	20.15 MMtherms/year (throughput is based on

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
	PREHEAT, F-701)			(daily capacity is based on an demonstrated actual hourly maximum firing rate of 230 MMBTU/hour) (Regulation 9, Rule 10 Compliance Plan)	an demonstrated actual hourly maximum firing rate of 230 MMBTU/hour) (Grandfathered Source)
S-26	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, HCN HYDROFINING, F-801, 33 MMBTU/hr)	Custom	Burners (4): John Zink VPMR-20	7.92 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 33 MMBTU/hour) (Regulation 9, Rule 10 Compliance Plan)	2.89 MMtherms/year (throughput is based on an demonstrated actual hourly maximum firing rate of 33 MMBTU/hour) (Grandfathered Source)
S-27	Waste gases; Other/not specified, Waste gases, Sodium hydroxide, 7 days/wk, 10 hrs/day, 52 wks/year (PFR REGENERATION FACILITIES)	Custom	N/A	22.56 MMSCF/day (based on 0.94 MMSCF/hour)	255.5 MMSCF/year (based on 70 kscf/hour for 10 hour/day – 365 day/year.) (Grandfathered Source)
S-29	Cooling tower, Fresh water, Water - process, other/not spec, (COOLING TOWER)	Deflon Anderson	5 DOP 4248-2615031 (5 cells)	85.5 MMgal/day circulation rate (based on 59.4 kgal/min)	31,220 MMgal/year (based on –85.5 MMgal/day circulation rate) (Grandfathered Source)
S-30	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR PREHEAT, F-2901)	Custom	Burners (12): John Zink HEVR-20P	[Sources 30-33 must sum to 463 MMBTU/hour =	40.56 MMtherms/year combined with S-31, S-32 and S-33 (average of 463 MMBTU/hour)

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
				111.12 ktherms/day] (Regulation 9, Rule 10 Compliance Plan)	(Grandfathered Source)
S-31	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR REHEAT, F-2902)	Custom	Burners (12): John Zink HEVR-20P	[Sources 30-33 must sum to 463 MMBTU/hour = 111.12 ktherms/day] (Regulation 9, Rule 10 Compliance Plan)	40.56 MMtherms/year combined with S-30, S-32 and S-33 (average of 463 MMBTU/hour) (Grandfathered Source)
S-32	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR REHEAT, F-2903)	Custom	Burners (9): John Zink HEVR-22P	[Sources 30-33 must sum to 463 MMBTU/hour = 111.12 ktherms/day] (Regulation 9, Rule 10 Compliance Plan)	40.56 MMtherms/year combined with S-30, S-31 and S-33 (average of 463 MMBTU/hour) (Grandfathered Source)
S-33	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR REHEAT, F-2904)	Custom	Burners (7): John Zink HEVR-22	[Sources 30-33 must sum to 463 MMBTU/hour = 111.12 ktherms/day] (Regulation 9, Rule 10 Compliance Plan)	40.56 MMtherms/year combined with S-30, S-31 and S-32 (average of 463 MMBTU/hour) (Grandfathered Source)
S-34	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, GAS HEATER, F-2905)	Custom	Burners (9): John Zink HEVR-22P	17.76 ktherms/day (daily capacity	6.48 MMtherms/year (throughput is based on an demonstrated actual

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S-#	Description	Make or Type	Model	Capacity	Throughput
				is based on demonstrated actual hourly maximum firing rate of 74 MMBTU/hr) (9-10 Compliance Plan)	hourly maximum firing rate of 74 MMBTU/hour) (Grandfathered Source)
S-35	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, GAS HEATER, F-2906)	Custom	Burners (3): John Zink HEVR-16P	3.36 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 14 MMBTU/hour) (9-10 Compliance Plan)	1.23 MMtherms/year (throughput is based on an demonstrated actual hourly maximum firing rate of 14 MMBTU/hour) (Grandfathered Source)
S-36	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-701)	Custom	Burners (18): John Zink B-Y-2720	65.28 ktherms/day (daily capacity is based on maximum daily design firing rate of 272.0 MMBTU/hour)	Excluded from Regulation 9, Rule 10 – 23.83 MMtherms/year (throughput is based on an annualized daily firing rate of 272.0 MMBTU/hour) (Grandfathered Source)
S-37	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-702)	Custom	Burners (18): John Zink B-Y-2720	65.28 ktherms/day (daily capacity is based on maximum daily design firing rate of 272.0 MMBTU/hour)	Excluded from Regulation 9, Rule 10 – 23.83 MMtherms/year (throughput is based on an annualized daily firing rate of 272.0 MMBTU/hour) (New Source Review)
S-38	Industrial Boiler - Other, Refinery make gas (RMG) (STEAM GENERATOR, SG-703)	Erie City Iron Works	#21M Pressurized Keystone; Burners (2): MJ-30	38.40 ktherms/day (daily capacity	14.02 MM therms/year (throughput is based on an demonstrated actual

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
				is based on an actual hourly maximum firing rate of 160 MMBTU/hour) (Regulation 9, Rule 10 Compliance Plan)	hourly maximum firing rate of 160 MMBTU/hour) (Grandfathered Source)
S-39	Industrial Boiler - Other, Refinery make gas (RMG) (STEAM GENERATOR, SG-2901)	Erie City Iron Works	#21M Pressurized Keystone; Burners (2): MJ-30	38.40 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 160 MMBTU/hour (Regulation 9, Rule 10 Compliance Plan)	14.02 MM therms/year (throughput is based on an demonstrated actual hourly maximum firing rate of 160 MMBTU/hour) (Grandfathered Source)
S-40	Commercial/Institutional Boiler, Natural gas, Refinery make gas (RMG) (Utility Package Boiler, SG-2301, 218MMBTU/hr Horizontal force)	CE, Inc. Burners: Coen	34VP-14W; Burners: Daf-42 Low NOx	52.32 ktherms/day (based on a maximum firing rate of 218 MMBTU/hour) (Condition #9296 and 9-10 Compliance Plan)	19.10 MMtherms/year (based on a maximum firing rate of 218 MMBTU/hour) (New Source Review)
S-41	Industrial Boiler - Other, Natural gas, Refinery make gas (RMG) (Steam Generator, SG-2302)	CE, Inc.	34VP-14W; Burners (2): Type SV	52.32 ktherms/day (based on a maximum firing rate of 218 MMBTU/hour) (9-10	19.10 MMtherms/year (based on a maximum firing rate of 218 MMBTU/hour) (Grandfathered Source)

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S-#	Description	Make or Type	Model	Capacity	Throughput
				Compliance Plan)	
S-42	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, TREAT GAS PREHTR, F-1060)	Custom	Burner: John Zink Vyr-22	3.36 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate off 14.0 MMBTU/hour)	0.1 MMtherms/year (Permit ID# 30330-2) (Grandfathered Source)
S-43	Industrial Turbine (PROCESS GAS TURBINE, GT-401)	GE	Frame Size 3	34.42 ktherms/day (daily capacity is based on a design (winter temperature) hourly maximum firing rate of 143.4 MMBTU/hour)	11.6 MMtherms/year (throughput is based on a design (seasonal average temperature) maximum firing rate of 132.4 MMBTU/hour) (Grandfathered Source)
S-44	Industrial Turbine (PROCESS GAS TURBINE, GT-701)	GE	Frame Size 3	36.58 ktherms/day (daily capacity is based on a design (winter temperature) hourly maximum firing rate of 152.4 MMBTU/hour)	12.35 MMtherms/year throughput is based on a design (seasonal average temperature) maximum firing rate of 141.0 MMBTU/hour) (Grandfathered Source)
S-45	Industrial Turbine (PROCESS GAS TURBINE GT-702)	GE	Frame Size 5	61.80 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum firing rate of 257.5	20.1 MMtherms/year (throughput is based on an demonstrated annualized daily firing rate of 229.4 MMBTU/hour) (Grandfathered Source)

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
				MMBTU/hour)	
S-46	Industrial Turbine (Process Gas Turbine, GT 1031 with steam injection)	GE	Frame Size 3	34.42 ktherms/day (daily capacity is based on a design (winter temperature) hourly maximum firing rate of 143.4 MMBTU/hour)	11.6 MMtherms/year (throughput is based on a design (seasonal average temperature) maximum firing rate of 132.4 MMBTU/hour) (Grandfathered Source)
S-48	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-1031)	Custom	Burners (2): John Zink Y3748	65.28 ktherms/day (daily capacity is based on maximum daily design firing rate of 272.0 MMBTU/hour)	Excluded from Regulation 9, Rule 10 – 23.83 MMtherms/year (throughput is based on an annualized daily firing rate of 272.0 MMBTU/hour) (Grandfathered Source)
S-50	Process Heater/Furnace, Refinery make gas (RMG) (AIR HEATER, CKR AUX. BURNER, F-901)	John Zink	Burner: Z-38E	10.08 ktherms/day (capacity is based on a demonstrated actual hourly maximum firing rate of 42 MMBTU/hour)	Start up burner: No annual throughput limit is needed. (Grandfathered Source)
S-51	HCU Total Feed Sandfilter, FIL 410A	N/A	N/A	40.0 kb/day (same as S-1003)	14.6 MMBBL/year (average. of 40.0 kb/day) (Grandfathered Source)
S-52	HCU Total Feed Sandfilter, FIL 410B	N/A	N/A	40.0 kb/day (same as S-1003)	14.6 MMBBL/year (average. of 40.0 kb/day) (Grandfathered Source)
S-55	Storage, Refinery sour waste water, (TK. 2801 SOUR WATER STORAGE)	N/A	N/A		5.61 MMBBL/year (based on 15.4 Kbbl/d) (Grandfathered Source)

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
S-56	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-401)	Custom	Burners (2): John Zink Y3748	65.28 ktherms/day (daily capacity is based on maximum daily design firing rate of 272.0 MMBTU/hour)	Excluded from Regulation 9, Rule 10 - 23.83 MMtherms/year (throughput is based on an annualized daily firing rate of 272.0 MMBTU/hour) (Grandfathered Source)
S-57	Tank, External Floating Roof, GOLD, Crude oil, Welded, Pontoon (TK-1701, CRUDE OIL)	N/A	N/A	6300 kgal	51.65 MMBBL/year combined with S-58. 59, 60, 61 and 62 (based on combined total of 141.5 kBBL/day) (Grandfathered Source)
S-58	Tank, External Floating Roof, GOLD, Crude oil, , Welded, Pontoon (TK-1702, CRUDE OIL)	N/A	N/A	18900 kgal	51.65 MMBBL/year combined with S-57, 59, 60, 61 and 62 (based on combined total of 141.5 kBBL/day) (Grandfathered Source)
S-59	Tank, External Floating Roof, GOLD, Crude oil, Welded, Pontoon (TK-1703, CRUDE OIL)	N/A	N/A	18900 kgal	51.65 MMBBL/year combined with S-57, 58, 60, 61 and 62 (based on combined total of 141.5 kBBL/day) (Grandfathered Source)
S-60	Tank, External Floating Roof, GOLD, Bunker C fuel oil, Crude oil, Welded, Pontoon (TK 1704, CRUDE OIL)	N/A	N/A	6300 kgal	51.65 MMBBL/year combined with S-57, 58, 59, 61 and 62 (based on combined total of 141.5 kBBL/day) (Grandfathered Source)
S-61	Tank, External Floating Roof, GOLD, Crude oil, Welded, Pontoon (TK 1705, CRUDE OIL)	N/A	N/A	18900 kgal	51.65 MMBBL/year combined with S-57, 58, 59, 60 and 62

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
					(based on combined total of 141.5 kBBL/day) (Grandfathered Source)
S-62	Tank, External Floating Roof, GOLD, Crude oil, Welded, Pontoon (TK 1706, CRUDE OIL)	N/A	N/A	18900 kgal	51.65 MMBBL/year combined with S-57, 58, 59, 60 and 61 (based on combined total of 141.5 kBBL/day) (Grandfathered Source)
S-63	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1711, GASOLINE COMP)	N/A	N/A	10920 kgal	62.8 MMBBL/year combined with S-73, 74, 75, 76, 78, 97 and 163 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-64	Tank, External Floating Roof, GREEN, Gas oil, Welded, Pontoon (TK-1712, GAS OIL)	N/A	N/A	13524 kgal	14.235 MMBBL/year combined with S-66, 67, 68 and 72 (based on combined total of 39.0 kBBL/day) (Grandfathered Source)
S-66	Tank, External Floating Roof, Distillate oil, Welded, Pontoon (TK-1714, GAS OIL)	N/A	N/A	8400 kgal	14.235 MMBBL/year combined with S-64, 67, 68 and 72 (based on combined total of 39.0 kBBL/day) (Grandfathered Source)
S-67	Tank, External Floating Roof, GREEN, Waste oil, Welded, Pontoon (TK-1715, GAS OIL)	N/A	N/A	9450 kgal	14.235 MMBBL/year combined with S-64. 66, 68 and 72 (based on combined total of 39.0 kBBL/day) (Grandfathered Source)
S-68	Tank, External Floating Roof, GREEN, Distillate oil, Welded, Pontoon (TK-1716, GAS OIL)	N/A	N/A	8820 kgal	14.235 MMBBL/year combined with S-64. 66, 67 and 72 (based on

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
					combined total of 39.0 kBBL/day) (Grandfathered Source)
S-72	Tank, External Floating Roof, GREEN, Distillate oil, , Welded, Pontoon (TK-1720, GAS OIL)	N/A	N/A	15,204 kgal	14.235 MMBBL/year combined with S-64. 66, 67 and 68 (based on combined total of 39.0 kBBL/day) (Grandfathered Source)
S-73	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1733, GASOLINE COMP)	N/A	N/A	5880 kgal	62.8 MMBBL/year combined with S-63, 74, 75, 76, 78, 97 and 163 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-74	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1734, ALKYLATE)	N/A	N/A	7980 kgal	62.8 MMBBL/year combined with S-63, 73, 75, 76, 78, 97 and 163 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-75	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1736, GASOLINE COMP)	N/A	N/A	3360 kgal	62.8 MMBBL/year combined with S-63, 73, 74, 76, 78, 97 and 163 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-76	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1737, GASOLINE COMP)	N/A	N/A	5880 kgal	62.8 MMBBL/year combined with S-63, 73, 74, 75, 78, 97 and 163 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-77	Tank, External Floating Roof, GOLD, Water/organics mixture, Welded, Pontoon	N/A	N/A	3360 kgal	7.4 MMBBL/365-day (MTBE production of

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
	(TK-1738, GASOLINE)				4.5 kBBL/day plus 5.8 MMBBL/year of MTBE receipts through S-207 (Grandfathered Source)
S-78	Tank, External Floating Roof, GREEN, Alkylate, Welded, Pontoon (TK-1739, GASOLINE COMPONENT)	N/A	N/A	6804 kgal	62.8 MMBBL/year combined with S-63, 73, 74, 75, 76, 97 and 163 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-79	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1751, GASOLINE)	N/A	N/A	5040 kgal	49.275 MMBBL/year combined with S-80, 82, 83, 84, 86 and 92 (based on 135 kBBL/day) (Grandfathered Source)
S-80	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1752, GASOLINE)	N/A	N/A	3780 kgal	49.275 MMBBL/year combined with S-79, 82, 83, 84, 86 and 92 (based on 135 kBBL/day) (Grandfathered Source)
S-81	Tank, External Floating Roof, GOLD, Water/organics mixture, Welded, Pontoon (TK-1753, GASOLINE)	N/A	N/A	3654 kgal	8.21 MMBBL/year combined with S-85, 103 and 104 (actual) (Grandfathered Source)
S-82	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1754, GASOLINE)	N/A	N/A	3150 kgal	49.275 MMBBL/year combined with S-79, 80, 83, 84, 86 and 92 (based on 135 kBBL/day) (Grandfathered Source)
S-83	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1755, GASOLINE)	N/A	N/A	5040 kgal	49.275 MMBBL/year combined with S-79, 80, 82, 84, 86 and 92 (based on 135 kBBL/day)

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	
					(Grandfathered Source)
S-84	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1756, GASOLINE)	N/A	N/A	3780 kgal	49.275 MMBBL/year combined with S-79, 80, 82, 83, 86 and 92 (based on 135 kBBL/day) (Grandfathered Source)
S-85	Tank, External Floating Roof, GOLD, Water/organics mixture, Waste oil, Welded, Pontoon (TK-1757, GASOLINE)	N/A	N/A	1260 kgal	8.21 MMBBL/year combined with S-81, 103 and 104 (actual) (Grandfathered Source)
S-86	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1758, GASOLINE)	N/A	N/A	3150 kgal	49.275 MMBBL/year combined with S-79, 80, 82, 83, 84 and 92 (based on 135 kBBL/day) (Grandfathered Source)
S-87	Tank, Internal Floating Roof, WHITE, Gasoline - unleaded, Welded, Pan (TK-1759, GASOLINE)	N/A	N/A	650 kgal	13.0 MMBBL/year combined with S-88, 89, 90 and S-91 (based on combined total of 35.7 kBBL/day) (Grandfathered Source)
S-88	Tank, Internal Floating Roof, WHITE, Gasoline - unleaded, Welded, Pan (TK-1760, GASOLINE w/Primary and Secondary Seals)	N/A	N/A	307 kgal	13.0 MMBBL/year combined with S-87, 88, 90 and S-91 (based on combined total of 35.7 kBBL/day) (Grandfathered Source)
S-89	Tank, Internal Floating Roof, 6WHITE, Gasoline - unleaded, Welded, Pan (TK-1761, GASOLINE)	N/A	N/A	651 kgal	13.0 MMBBL/year combined with S-87, 88, 90 and S-91 (based on combined total of 35.7 kBBL/day) (Grandfathered Source)
S-90	Tank, Internal Floating Roof, WHITE, Gasoline - unleaded, Welded, Pan (TK-1762, GASOLINE w/liquid mounted primary and secondary seals)	N/A	N/A	307 kgal	13.0 MMBBL/year combined with S-87, 88, 89 and S-91 (based on combined total of

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
					35.7 kBBL/day) (Grandfathered Source)
S-91	Tank, Internal Floating Roof, WHITE, Gasoline - unleaded, Welded, Pan (TK-1763, GASOLINE w/liquid mounted primary and secondary seals)	N/A	N/A	307 kgal	13.0 MMBBL/year combined with S-87, 88, 89 and S-90 (based on combined total of 35.7 kBBL/day) (Grandfathered Source)
S-92	Tank, External Floating Roof, GOLD, Fuel - jet 'A', Welded, Pontoon (TK-1771, JP4)	N/A	N/A	4620 kgal	49.275 MMBBL/year combined with S-79, 80, 82, 83, 84, 86 & 97 (based on 135 kBBL/day) (Grandfathered Source)
S-97	Tank, External Floating Roof, GOLD, Fuel - jet 'A', Welded, Pontoon (TK-1776, JP4)	N/A	N/A	4620 kgal	62.8 MMBBL/year combined with S-63, 73, 74, 75, 76, 78 and 163 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-101	Tank, Internal Floating Roof, GOLD, Water/organics mixture, Welded, Pan (TK-1791, SLOP w/ primary & secondary seals)	N/A	N/A	189 kgal	5 MMBBL/year (based on 400 gpm rate) (Grandfathered Source)
S-103	Tank, Internal Floating Roof, GREEN, Water/organics mixture, Welded, Pan (TK-1793 SLOP)	N/A	N/A	676 kgal	8.21 MBBL/year combined with S-81, 85, and 104 (actual) (Grandfathered Source)
S-104	Tank, External Floating Roof, GOLD, Organic liquid -other/not spec, Welded, Pontoon (TK-1795, SLOP)	N/A	N/A	3654 kgal	8.21 MBBL/year combined with S-81, 85, and 103 (actual) (Grandfathered Source)
S-105	Tank, Internal Floating Roof, GOLD, Organic liquid -other/not spec, Welded, Pontoon (TK-1796, WWEIGHT SLOP)	N/A	N/A	189 kgal	690.5 kBBL/year - Condition #8771 (Grandfathered Source)
S-106	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1797, SLOP)	N/A	N/A	76 kgal	548 kBBL/year (actual) (Grandfathered Source)
S-108	Tank, Pressure, GOLD, Organic liquid - other/not spec, (TK-1801, MMT)	N/A	N/A	16,800 gal	6.85 kBBL/year (Grandfathered Source)

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
S-110	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1803, HTA)	N/A	N/A	16,800 gal	260 kBBL/year (actual) (Grandfathered Source)
S-111	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1804, HTA)	N/A	N/A	71 kgal	5300 kBBL/year (actual) (Grandfathered Source)
S-112	Tank, Internal Floating Roof, GOLD, Organic liquid -other/not spec, Welded, Pan (TK-1805, TEL WASH)	N/A	N/A	336 kgal	547.5 kBBL/year (based on 1.5 kBBL/day) (Grandfathered Source)
S-113	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1806, LUBRISOL)	N/A	N/A	2520 gal	85 BBL/year (Grandfathered Source)
S-114	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1807, GASOLINE RED DYE)	N/A	N/A	2520 gal	85 BBL/year (actual) (Grandfathered Source)
S-115	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1808, GASOLINE ORANGE DYE)	N/A	N/A	2520 gal	55 BBL/year (actual) (Grandfathered Source)
S-117	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1810, CORROSION INHIBITOR)	N/A	N/A	6300 gal	200 BBL/year (actual) (Grandfathered Source)
S-120	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec,(TK-1813, METAL DEACT)	N/A	N/A	2520 gal	73 BBL/year (actual) (Grandfathered Source)
S-122	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK 1814, ADDITIVES)	N/A	N/A	2540 gal	85 BBL/year (Grandfathered Source)
S-124	Tank, Pressure, GOLD, Paraffins - C3+, (TK-1735, PENTANES)	N/A	N/A	3360 kgal	3.28 MMBBL/year (average of 9.0 kBBL/day) (Grandfathered Source)
S-129	Loading, Ship, Ship, 7 Loading Arms (Total) and 3 Loading Arms (Gasoline), Multi-liquid, Unknown fill (Crude / Product Dock (renamed July 1995))	Continental EMSCO Loading arms	4 – CEHMA-10; 3 – CEHMA-6	240 kBBL/day (based on 10kBBL/hour)	9.39 MMBBL/year gasoline loaded (average of 25.7 kBBL/day) (New Source Review)
S-131	Storage, Refinery sludge, (WASTE WATER SLUDGE DRUM D2069)	N/A	N/A		29 MM gal/12-month (see S-208)

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
					(Grandfathered Source)
S-132	Storage, Caustic waste, (Tk 2711, SPENT CAUSTICS)	N/A	N/A		325 kBBL/year (Grandfathered Source)
S-133	Storage, Acid - waste, (TK 2712, SPENT ACID)	N/A	N/A		219 kBBL/year (average of 600 BBL/day) (Grandfathered Source)
S-134	Storage, Caustic waste, (TK 2713, SPENT CAUSTIC SURGE)	N/A	N/A		207 kBBL/year (Grandfathered Source)
S-143	Tank, Vertical Fixed Roof, UN, Hydrocarbon - mixtures, other/not spec, (Corrosion Inhibitor Tank (EC1010A or equivalent)) TK-1034	N/A	N/A	4500 gal	15 kgal/12-month (Condition #13045) (New Source Review)
S-150	Refinery sour waste water, (TK 2051, PRIMARY SLUDGE THICKENER)	N/A	N/A		3.19 MMBBL/year feed (design basis of 255 gpm) (Grandfathered Source)
S-151	Wastewater storage - ponds, Stormwater and process water, (Wastewater Equalization Pond)	N/A	N/A		S-151 contains only diverted storm water during severe weather Very low concentrations of HC bearing compounds would be detected in this water. For the most part these ponds are dry. No throughput limits would be applicable (Grandfathered Source)
S-154	Refinery sour waste water (WASTE WATER BIOXIDATION UNIT 2053A)	N/A	N/A	S-154, 155 and 169 Combined throughput limit of 89.1 kBBL/day (average of 2600 gpm)	32.5 MMBBL/year combined with S-155 and 169 (average of 2600 gpm) (Grandfathered Source)
S-155	Refinery sour waste water, (WASTE	N/A	N/A	S-154, 155 and	32.5 MMBBL/year

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
	WATER BIOXIDATION UNIT 2053B)			169 Combined throughput limit of 89.1 kBBL/day (average of 2600 gpm	combined with S-154 and 169 (average of 2600 gpm) (Grandfathered Source)
S-156	Wastewater storage - ponds, (WASTE WATER RETENTION POND)	N/A	N/A		S-156 contains diverted process/stormwater. Very low concentrations of HC bearing compounds would be detected in this pond. For the most part these ponds are normally dry. No throughput limits apply (Grandfathered Source)
S-157	Storage, Sulfur, (SULFUR STORAGE PIT AT SULFUR PLANTS)	N/A	N/A	1147 short tons/day (average of 47.8 short tons/hour) Sulfur production	116,800 short tons/year (combined permit condition sulfur production from S-1 and S-2) (Grandfathered Source)
S-158	Tank, Vertical Fixed Roof, GOLD, Perchloroethylene (PERC), Carbon tetrachloride, 7 ft diameter (TK 2902, Carbon Tetrachloride)	N/A	N/A	2300 gal	10 kgal/12-month (PERC) (Condition #9584) (New Source Review)
S-159	Other petroleum products; Other, Lube oil, (S.G.701 & G.T.701 Lube Oil Reservoir)	Custom	N/A	410.4 kgal/day (average. of 17.1 kgal/hour)	149.8 MMgal/year (based on 410.4 kgal/day) (Grandfathered Source)
S-160	Other petroleum products; Other, Lube oil, 7 days/wk, 24 hours/day, 2 wks/year (SEAL OIL SPARGER FOR COMPRESSOR C1031)	Custom	N/A	38.4 kgal/day (average. of 1.6 kgal/hour)	14.0 MMgal/year (based on 38.4 kgal/day) (Grandfathered Source)
S-161	Separator - oil/water, Waste water, (OILY WATER SEWER PIPELINE)	N/A	N/A		Throughput limit not prudent for sewer system which handles both oily water and

Permitted Sources

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S-#	Description	Make or Type	Model	Capacity	Throughput
					stormwater (Grandfathered Source)
S-163	Tank, External Floating Roof, GOLD, Waste oil, Gasoline - unleaded, Welded, Pontoon (TK 1732, GASOLINE COMPONENT)	N/A	N/A	3780 kgal	62.8 MMBBL/year combined with S-63, 73, 74, 75, 76, 78 and 97 (based on combined total of 172.1 kBBL/day) (Grandfathered Source)
S-165	GDF, vehicle, non-retail-fee, balance (Phase 2), 2 tanks, 1 exempt nozzle, 1 gasoline nozzle (GDF #6764)	Nozzle: Gilbarco Balance System: Emco Wheaton	Nozzle: 625-100 Balance System: #A3003		2.2 kBBL/year (Grandfathered Source)
S-167	Other petroleum products; Other, Oil - non-fuel, other/not spec, 6.6 tons/hour max, 7 days/wk, 24 hours/day, 50 wks/year (Seal Oil Sparger for Compressor C-401)	N/A	N/A	25.1 kgal/day (average. of 17.4 gpm)	9.15 MMgal/year (based on 25.1 kgal/day) (Grandfathered Source)
S-168	Other petroleum products; Other, Paraffins - C3+, 1.7 N/A/hour max, 7 days/wk, 24 hours/day, 50 wks/year (SEAL OIL SPARGER FOR COMPRESSOR C-2901)	N/A	N/A	21.6 kgal/day (average of 15 gpm)	7.9 MMgal/year (based on 21.6 kgal/day) (Grandfathered Source)
S-169	Other process/not specified, Refinery waste water, 1.25 thou barrels/hour max, 7 days/wk, 24 hours/day, 52 wks/year (Third Bioxidation Unit)	Custom	N/A	S-154, 155 and 169 Combined throughput limit of 89.1 kBBL/day (average of 2600 gpm)	32.5 MMBBL/year combined with S-154 and 155 (based on 89.1 kBBL/day) (New Source Review)
S-170	Tank, Vertical Fixed Roof, YELLOW, Hexane, Organic liquid -other/not spec, (TK 2317, Cationic Polymer (Utilities))	N/A	N/A	5470 gal	13675 gal/year (New Source Review)
S-171	Tank, Vertical Fixed Roof, YELLOW, Methyl alcohol, (Methanol Storage Tank)	N/A	N/A	500 gal	26 kgal/year (New Source Review)
S-173	Process Heater/Furnace, Refinery make gas (RMG) (Coker Steam Superheat Furnace F-902)	Burners: John Zink	PVYD SF 16 (or equivalent)	5.28 ktherms/day (daily capacity is based on an demonstrated	1.93 MMtherms/year (throughput is based on an demonstrated actual hourly maximum firing rate of 22

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
				actual hourly maximum firing rate of 22 MMBTU/hour (HHV)) (Regulation 9, Rule 10 Compliance Plan)	MMBTU/hour (HHV)) (New Source Review)
S-174	Material Handling/Miscellaneous, Lime, (TK 2321, Lime Slurry)	N/A	N/A	75 tons/day	4,562.5 tons/year (New Source Review)
S-175	Material Handling/Miscellaneous, Lime, (TK 2322, Lime Slurry)	N/A	N/A	75 tons/day	4,562.5 tons/year (New Source Review)
S-176	Material handling - other/not, Salt, (TK 2325, Brine Saturator)	Scienco (or equivalent)	N/A	50 tons/day	600 tons/year (New Source Review)
S-177	Solvent Cleaning, Solvent cleaning; (Solvent Cleaning Station-Dip Tank)	Custom	N/A		300 gal/year (New Source Review)
S-180	Tank, Vertical Fixed Roof, WHITE, Hydrocarbon - mixtures, other/not spec, (Demulsifier Storage Tank, Breaxit 410)	N/A	N/A	3 kgal	3000 gal/year (New Source Review)
S-188	Separator - oil/water, Waste water, 1 days/wk, 24 hours/day, 52 wks/year (Oil/Water/Sediment Separator)	WEMCO	Pacesetter	24 kBBL/day (permit limit)	8.76 MBBL/year (permit limit) (New Source Review)
S-189	Separator - oil/water, Waste water, (Induced Static Flotation Cell)	L'eau Claire Int'l	75x	24 kBBL/day (permit limit)	8.76 MBBL/year (permit limit) (New Source Review)
S-193	Other petroleum products; Other, Waste water (TK 2027, Diversion)	N/A	N/A		37.5 MMBBL/year combined with S-196 (total of 3000 gpm) (New Source Review)
S-194	Separator - oil/water, Waste water, (Oil/Water/Sediment Separator #2006)	WEMCO	Pacesetter	102.9 kBBL/day combined with S-195	37.5 MMBBL/year combined with S-195 (total of 3000 gpm) (New Source Review)
S-195	Separator - oil/water, Waste water (Oil/Water/Sediment Separator #2056)	WEMCO	Pacesetter	102.9 kBBL/day combined with S-194	37.5 MMBBL/year combined with S-194 (total of 3000 gpm) (New Source Review)

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
S-196	Other petroleum products; Other, Waste water (TK 2077, Diversion)	N/A	N/A		37.5 MMBBL/year combined with S-193 (total of 3000 gpm) (New Source Review)
S-197	Separator - oil/water, Waste water (Induced Static Flotation Cell #2007)	L'eau Claire Int'l	unknown	102.9 kBBL/day combined with S-198	37.5 MMBBL/year combined with S-198 (total of 3000 gpm) (New Source Review)
S-198	Separator - oil/water, Waste water (Induced Static Flotation Cell #2057)	L'eau Claire Int'l	unknown	102.9 kBBL/day combined with S-197	37.5 MMBBL/year combined with S-197 (total of 3000 gpm) (New Source Review)
S-199	Tank, Vertical Fixed Roof, GOLD, Crude oil, (Oil Collection Drum D-2055)	N/A	N/A	1300 gal	41.7 kBBL/year (based on 200 gal/hour) (New Source Review)
S-200	Other petroleum products; Other, Oil/water mixture, (Collection Drum D-2056)	N/A	N/A		2.50 MMBBL/year (design basis of 200 gpm) (New Source Review)
S-202	Loading, Truck, 1 Loading Arm (Total), Crude oil, Bottom/Submerged fill (Vacuum Truck Loading from Tank (S-131))	N/A	N/A	79.5 kgal/day	29 MMgal/year Condition #8771 (New Source Review)
S-205	Other petroleum products; Other, Waste water (Surge Tank #2026)	N/A	N/A		37.5 MMBBL/year combined with S-206 (total of 3000 gpm) (New Source Review)
S-206	Other petroleum products; Other, Waste water (Surge Tank #2076)	N/A	N/A		37.5 MMBBL/year combined with S-205 (total of 3000 gpm) (New Source Review)
S-207	Tank, External Floating Roof, GOLD, Multi-liquid, Welded, Pontoon (Tk 1740, MTBE/Mogas)	N/A	N/A	14,700 kgal	5.8 MMBBL/365-day (MTBE)*;* 16.9364 MMBBL/365-day (mogas) (Condition #10797) (New Source Review)
S-208	Other petroleum products; Other, Petroleum products - other/not spec, (Coker Feed Drum D-920)	N/A	N/A		29 MMgal/12-month (Condition #8771) (New Source Review)

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
S-209	Loading, Truck, 5 Loading Arms (Total), Methyl alcohol, Bottom/Submerged fill (Methanol Railcar Unloading Facility) Ethanol, Mogas/component service	N/A	"Dry-break" nozzles		2,920 trucks/12-month (Condition #9296) (New Source Review)
S-210	Tank, External Floating Roof, - UN, Methyl alcohol, Welded (TK-1820, Methanol) Ethanol/Mogas component	N/A	N/A	630 kgal	575 kBBL methanol/ethanol/12-month (Condition #9296) (New Source Review)
S-220	Combustion, Furnace - Other, Refinery make gas (RMG) (Hot Oil Furnace)	Custom	N/A	84.24 ktherms/day (daily capacity is based on an demonstrated actual hourly maximum rate of 351 MMBTU/hour) (9-10 Compliance Plan)	28.908 MMtherms/365-day (Condition #10574) (New Source Review)
S-227	Tank, Vertical Fixed Roof, GOLD, Multi-liquid, (C5/Heatcut/Mogas Component Storage Tank)	N/A	N/A	7350 kgal	3.14 MMBBL/year (average. of 8.6 kBBL/day) (New Source Review)
S-232	Material handling - (ESP Fines Vacuum Conveying System)	N/A	N/A	20 tons/day	7,300 tons/12-month (Condition #12727) (New Source Review)
S-233	Storage, (ESP Fines Storage Bin)	N/A	N/A	20 tons/day	7,300 tons/12-month (Condition #12727) (New Source Review)
S-234	Fixed roof tank, 2kgal, demulsifier	N/A	N/A	2 kgal	121.8 kgal/year (New Source Review)
S-235	Fixed roof tank, 1kgal, demulsifier	N/A	N/A	1 kgal	60.9 kgal/year (New Source Review)
S-236	Product Sulfur Tank 1901-(new)	N/A	N/A	126 kgal	116,800 short tons/year sulfur production (Combined sulfur

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
					production from S-1 and S-2 (New Source Review)
S-237	BOILER-SG1032-(new)	Babcock & Wilcox; Burners: Todd	Type D; Burners: Veriflame SV925 IGO	75.60 ktherms/day average of 315 MMBTU/hour (Condition #16027-19)	25.0536 MMtherms in any 365 consecutive day period (average of 286 MMBTU/hour) (Condition #16027-18) (New Source Review)
S-239	Crude/Product dock Sump (TK-1918)	N/A	N/A	3100 gal	102 kgal/year (New Source Review)
S-240	Emergency Diesel Engine for Break Tank Raw Water Pump, (P-2401C)	Caterpillar	3408 B, 550 HP		<100 hours/year reliability-related activities (Grandfathered Source)
S-241	Emergency Diesel Engine for Crude Field Firewater Pump, (P-2602)	Cummin	NT-855-FS, 230 HP		<100 hours/year reliability-related activities (Grandfathered Source)
S-242	Emergency Diesel Engine for Dock Firewater Pump (P-2607B)	Cummin	VTA-1710-P700, 700 HP		<100 hours/year reliability-related activities (Grandfathered Source)
S-243	Emergency Diesel Engine for Control Room Standby Power (DG-5101)	Detriot Diesel	Series 92, Model 8163-7405, 1095 HP		<100 hours/year reliability-related activities (New Source Review)
S-1002	Hydrotreating/hydrofining, Diesel oil, (DIESEL HYDROFINER)	N/A	N/A	14.0 kBBL/day feed (design safety valve limit)	5.1 MMBBL/year feed (14.0 kBBL/day) (Grandfathered Source)
S-1003	Hydrocracking, Distillate oil, 7 days/wk, 24 hours/day, 48 weeks/year (HYDROCRACKER)	N/A	N/A	40.0 kBBL/day fresh feed (design safety valve limit)	14.6 MMBBL/year fresh feed (40.0 kBBL/day) (Grandfathered Source)
S-1004	Catalytic reforming, Reformate, (CATALYTIC REFORMER-(PFR))	N/A	N/A	39.8 kBBL/day (maximum actual and BAAQMD	12.739 MMBBL/year feed (annual average. of 34.9 kBBL/day) (New Source Review)

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
				Condition # 18794, Part 1) feed	
S-1005	Hydrotreating/hydrofining, Gas oil, (CAT. FEED HYDROFINER)	N/A	N/A	41.4 kBBL/day feed (design feed pump)	15.1 MMBBL/year (41.4 kBBL/day) (Grandfathered Source)
S-1006	Distillation - crude, Crude oil, (CRUDE UNIT WITH 55E6 BTU/hour HEAT EXCHANGER)	N/A	N/A	135 kBBL/day crude oil feed (condition # 815)	49.3 MMBBL/year (based on 135 kBBL/day) (New Source Review)
S-1007	Alkylation, Alkylate, (ALKYLATION UNIT)	N/A	N/A	22.8 kBBL/day (limit based on A/N 3782)	year 8.32 MMBBL/year (based on 22.8 kBBL/day per A/N 3782) (New Source Review)
S-1008	Hydrotreating/hydrofining, Gasoline - leaded, Gasoline - unleaded, (GASOLINE HYDROFINER)	N/A	N/A	35.0 kBBL/day feed (unit hydraulic limit)	12.8 MMBBL/year feed based on a design rate of 35.0 kBBL/day. (Grandfathered Source)
S-1009	Hydrotreating/hydrofining, Fuel - jet 'A', (JET FUEL HYDROFINER)	N/A	N/A	17.9 kBBL/day feed (design safety valve limit)	6.5 MMBBL/year feed (17.9 kBBL/d) (Grandfathered Source)
S-1010	Hydrogen manufacturing, Refinery make gas (RMG), 5900000 million cubic feet/hour max, (HYDROGEN PLANT)	N/A	N/A	164 MMscf/day combined product hydrogen from both A and B trains (CFP duty permit limit)	59,900 MMscf/year combined product H2 (164 MMScf/day) (Grandfathered Source)
S-1011	Hydrotreating/hydrofining, Refinery feedstock -other/not spec, (HEAVY CAT NAPHTHA HYDROFINER)	N/A	N/A	25.0 kBBL/day (design safety valve limit)	9.1 MMBBL/year (25.0 kBBL/day) (Grandfathered Source)
S-1012	Feedstock; Other/not specified, Petroleum products -other/not spec, (Dimersol Unit)	N/A	N/A	5.0 kBBL/day propylene feed	1.825 MMBBL/year (based on 5.0 kBBL/day) (New Source Review)
S-1013	Tank, Pressure, YELLOW, Hexane, Organic liquid -other/not spec, (Dimersol Unit -	N/A	N/A	10 kgal	2.84 kBBL/year (design pump limit)

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
	(D2720) EADC 10.0 kgal Tank)				(New Source Review)
S-1014	Feedstock; Other/not specified, (Cracked Light Ends Process Unit)	N/A	N/A	90.0 kBBL/day total feed (design limit)	32.8 MMBBL/year total feed (90.0 kBBL/day) (Grandfathered Source)
S-1020	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (Heartcut Tower)	N/A	N/A	100 kBBL/day	36.5 MMBBL/year (based on 100 kBBL/day) (New Source Review)
S-1021	Hydrotreating/hydrofining, Refinery feedstock -other/not spec, 100 thou barrels/day max, (Heartcut Saturation Unit)	N/A	N/A	100 kBBL/day	36.5 MMBBL/year (based on 100 kBBL/day) (New Source Review)
S-1022	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (Cat. Reformer T-90 Tower)	N/A	N/A	100 kBBL/day	36.5 MMBBL/year (based on 100 kBBL/day) (New Source Review)
S-1023	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (Cat. Naphtha T-90 Tower)	N/A	N/A	100 kBBL/day	36.5 MMBBL/year (based on 100 kBBL/day) (New Source Review)
S-1024	Hydrotreating/hydrofining, Refinery feedstock -other/not spec, 24 thou barrels/ day max, (Light Cat. Naphtha Hydrotreater)	N/A	N/A	24 kBBL/day	8.76 MMBBL/year (based on 24 kBBL/day) (New Source Review)
S-1026	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (C5/C6 Splitter)	N/A	N/A	100 kBBL/day	36.5 MMBBL/year (based on 100 kBBL/day) (New Source Review)
S-1027	Pentane Rail Car Loading Rack	N/A	N/A	22,500 bbls/day	8.215 MM Bbl/year Condition #17835 (New Source Review)
S-1030	Combustion Turbine Generator (Refinery Fuel Gas and/or Natural Gas Fired)	General Electric	LM 6000	500 MMBTU/hour	6,341,000 MMBTU/year (combined S-1030 & S-1031) (New Source Review)

Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity	Throughput
S-1031	Heat Recovery Steam Generator	N/A	Duct Burner Supplemental Firing System	310 MMBTU/hour	6,341,000 MMBTU/year (combined S-1030 & S-1031) (New Source Review)
S-1032	Combustion Turbine Generator (Refinery Fuel Gas and/or Natural Gas Fired)	General Electric	LM 6000	500 MMBTU/hour	6,341,000 MMBTU/year (combined S-1032 & S-1033) (New Source Review)
S-1033	Heat Recovery Steam Generator	N/A	Duct Burner Supplemental Firing System	310 MMBTU/hour	6,341,000 MMBTU/year (combined S-1032 & S-1033) (New Source Review)

ATTACHMENT II

Exempt Sources

Each of the following sources has been issued an exemption pursuant to the provisions of BAAQMD Regulation 2, Rule 1.

S-#	Description	Make or Type	Model	Capacity	Exempt (< 5tons POC, if applicable)
S-65	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, (TK-1713, RESID)	N/A	N/A	5250 kgal	Exempt-distillate Regulation 2-1-123.3.2
S-69	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, Gas oil, (TK-1717, RESID)	N/A	N/A	5250 kgal	Exempt-distillate Regulation 2-1-123.3.2
S-70	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, (TK-1718,RESID)	N/A	N/A	5250 kgal	Exempt-distillate Regulation 2-1-123.3.2
S-71	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, (TK-1719, RESID)	N/A	N/A	15,708 kgal	Exempt-distilllate Regulation 2-1-123.3.2
S-93	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1772, JP5)	N/A	N/A	4620 kgal	Exempt-jet fuel Regulation 2-1-123.3.2
S-94	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1773, JP5)	N/A	N/A	1050 kgal	Exempt-jet fuel Regulation 2-1-123.3.2
S-95	Tank, Vertical Fixed Roof, GOLD, Distillate oil, (TK-1774, DIESEL)	N/A	N/A	3150 kgal	Exempt-distillate Regulation 2-1-123.3.2
S-96	Tank, Vertical Fixed Roof, GOLD, Distillate oil, (TK-1775, DIESEL)	N/A	N/A	3150 kgal	Exempt-distillate Regulation 2-1-123.3.2
S-98	Tank, Vertical Fixed Roof, WHITE, Distillate oil, (TK-1777, DIESEL)	N/A	N/A	651 kgal	Exempt-distillate Regulation 2-1-123.3.2
S-99	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1778, ETFA)	N/A	N/A	2373 kgal	Exempt-jet Regulation 2-1-123.3.2
S-100	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1779, ETF-A)	N/A	N/A	2373 kgal	Exempt-jet Regulation 2-1-123.3.2

Exempt Sources

Each of the following sources has been issued an exemption pursuant to the provisions of BAAQMD Regulation 2, Rule 1.

S-#	Description	Make or Type	Model	Capacity	Exempt (< 5tons POC, if applicable)
S-107	Tank, Vertical Fixed Roof, GOLD, Distillate oil, (TK-1798, DIESEL (FUEL OIL))	N/A	N/A	4410 kgal	Exempt-distillate Regulation 2-1-123.3.2
S-109	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1802, GASOLINE ANTI-OXIDANT)	N/A	N/A	16,800 gal	Exempt-additive Regulation 2-1-123.3.2
S-116	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1809, PETROX)	N/A	N/A	39 kgal	Exempt-additive Regulation 2-1-123.3.2
S-118	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1811, AO33)	N/A	N/A	17 kgal	Exempt-additive Regulation 2-1-123.3.2
S-119	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1812, ANTI-ICE)	N/A	N/A	16,800 gal	Exempt-additive Regulation 2-1-123.3.2
S-121	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (D-807, POLYSULFIDE DRUM)	N/A	N/A	6468 gal	Exempt-additive Regulation 2-1-123.3.2
S-123	Tank, Vertical Fixed Roof, GOLD, (TK-1794,) Diesel Red Dye	N/A	N/A	8400 gal	Exempt Regulation 2-1-123.3.2
S-127	Loading, Motor Vehicle, Motor Vehicle Refueling Station, 1 Loading Arms (Total) and 0 Loading Arms (Gasoline), Distillate oil, Bottom/Submerged fill (DIESEL DISPENSER, SERVICES BLDG AREA)	Gilbarco Loading Arm	625-100		Exempt-distillate Regulation 2-1-123.3.2
S-140	Tank, Vertical Fixed Roof, YELLOW, Alcohol - amine, (TK 1204, MEA INVENTORY)	N/A	N/A	10600 gal	Exempt-additive Regulation 2-1-123.3.2
S-142	Tank, Vertical Fixed Roof, YELLOW, Hydrocarbon – mixtures, other/not spec, (TK-103, Demulsifier Tank)	N/A	N/A	7 kgal	Exempt-additive Regulation 2-1-123.3.2
S-144	Tank, Pseudo fixed roof tank, SILVER, Hydrocarbon - mixtures, other/not spec, (TK 5013, Neutralizing Amine (Pipestill))	N/A	N/A	1500 gal	Exempt-additive Regulation 2-1-123.3.2
S-145	Tank, Vertical Fixed Roof, YELLOW,	N/A	N/A	47 kgal	Exempt-additive

Exempt Sources

Each of the following sources has been issued an exemption pursuant to the provisions of BAAQMD Regulation 2, Rule 1.

S-#	Description	Make or Type	Model	Capacity	Exempt (< 5tons POC, if applicable)
	Alcohol - amine, (TK 1201, – MDEA ACCUMULATOR (20% SOLUTION))				Regulation 2-1-123.3.2
S-185	Tank, Vertical Fixed Roof, UN, Organic liquid -other/not spec, (Cationic Polymer Tank)	N/A	N/A	5 kgal	Exempt Regulation 2-1-123.3.2
S-192	Other petroleum products; Other, Waste water (TK 2052, Thickener)	N/A	N/A		Exempt-additive Regulation 2-1-123.3.2
S-201	Loading, Truck, 1 Loading Arm (Total), Waste water, Bottom/Submerged fill (Vacuum Truck Loading from Thickener Tank (S-192))	N/A	N/A		Exempt Regulation 2-1-123.2
S-214	Process drain - w/o controls, Waste water - (BIOX Aerator for Stripped Sour Water)	N/A	N/A		Exempt Regulation 2-1-123.2
S-215	Process drain - w/o controls, Waste water - (BIOX Clarifier for Stripped Sour Water)	N/A	N/A		Exempt Regulation 2-1-123.2
S-217	Tank, Vertical Fixed Roof, BLACK, Refinery sludge, (WWEIGHT Sludge Tank)	N/A	N/A	22 kgal	Exempt Regulation 2-1-123.2
S-218	Tank, Vertical Fixed Roof, BLACK, Refinery sludge, (WWEIGHT Sludge Tank)	N/A	N/A	22 kgal	Exempt Regulation 2-1-123.2
S-219	Tank, Vertical Fixed Roof, BLACK, Refinery sludge, (WWEIGHT Sludge Tank)	N/A	N/A	22 kgal	Exempt Regulation 2-1-123.3.2
S-238	BIOX Aerator for stripped sour water	N/A	N/A		Exempt Regulation 2-1-123.3.2
S-1019	Other petroleum products; Other (Laboratory Sample Waste Sinks)	N/A	N/A		Exempt Regulation 2-1-126
S-32000	Combustion, Minor Sources, Natural gas (MINOR SOURCES)	N/A	N/A		Pilot gas to combustion devices, excluding flares

Exempt Sources

Each of the following sources has been issued an exemption pursuant to the provisions of BAAQMD Regulation 2, Rule 1.

S-#	Description	Make or Type	Model	Capacity	Exempt (< 5tons POC, if applicable)
					– Show as Exempt (not a permittable source)
S-32100	Refinery vacuum products (Fugitive Sources - Vacuum Producing Systems)	N/A	N/A		POC Fugitives Tracking Show as Exempt (not a permittable source)
S-32101	Refinery process vessels (Fugitive Sources – Process Vessel Depressurization)	N/A	N/A		POC Fugitives Tracking Show as Exempt (not a permittable source)
S-32102	Refinery valves/flanges (Fugitive Sources – Valves and Flanges)	N/A	N/A		POC Fugitives Tracking Show as Exempt (not a permittable source)
S-32103	Refinery pumps/compressors (Fugitive Sources - Pumps & Compressor Seals)	N/A	N/A		POC Fugitives Tracking Show as Exempt (not a permittable source)
S-32104	Refinery pressure relief valve (Fugitive Sources - Pressure Relief Valves)	N/A	N/A		POC Fugitive Tracking Show as Exempt (not a permittable source)
S-32105	Refinery process drains (Fugitive Sources – Process Drains)	N/A	N/A		POC Fugitive Tracking Show as Exempt (not a permittable source)
S-32110	Refinery flaring/blowdown (Process Gas (Combustion) Emissions from Flares and Blowdown Systems)	N/A	N/A		Show as Exempt (not a permittable source)
S-230	TK-4460 Dowtherm Storage Tank	N/A	N/A		Exempt

Exempt Sources

Each of the following sources has been issued an exemption pursuant to the provisions of BAAQMD Regulation 2, Rule 1.

S-#	Description	Make or Type	Model	Capacity	Exempt (< 5tons POC, if applicable)
					Regulation 2-1-103
S-231	Aqueous Ammonia Storage Drum	N/A	N/A		Exempt Regulation 2-1-123.3.2
None	TK-1730 Flushing Oil Tank	N/A	N/A		Exempt Regulation 2-1-123.3.2
None	TK-1721 LPG Sphere	N/A	N/A		Exempt Regulation 2-1-123.3.1
None	TK-1722 LPG Sphere	N/A	N/A		Exempt Regulation 2-1-123.3.1
None	TK-1723 LPG Sphere	N/A	N/A		Exempt Regulation 2-1-123.3.1
None	TK-1724 LPG Sphere	N/A	N/A		Exempt Regulation 2-1-123.3.1
None	TK-1725 LPG Sphere	N/A	N/A		Exempt Regulation 2-1-123.3.1
None	TK-1726 LPG Sphere	N/A	N/A		Exempt Regulation 2-1-123.3.1
None	D-3905 A/B Anhydrous Ammonia Drums	N/A	N/A		Exempt Regulation 2-1-103
None	Octane Test Engines	N/A	N/A		Exempt Regulation 2-1-126.2
None	Post-BIOX Selenium Removal Facilities	N/A	N/A		Exempt Regulation 2-1-103
None	TK-2700 Fresh Caustic Tank	N/A	N/A		Exempt Regulation

Exempt Sources

Each of the following sources has been issued an exemption pursuant to the provisions of BAAQMD Regulation 2, Rule 1.

S-#	Description	Make or Type	Model	Capacity	Exempt (< 5tons POC, if applicable)
					2-1-123.2
None	Nitrogen Plant	N/A	N/A		Exempt Regulation 2-1-103
None	Assorted Organic Liquid Storage Vessels and Containers Less Than 260 gallons	N/A	N/A		Exempt Regulation 2-1-123.1
None	Assorted Tanks, Vessels, and Pumping Equipment Associated with Aqueous Solutions	N/A	N/A		Exempt Regulation 2-1-123.2
None	Assorted Containers, Tanks, Reserviors and Loading Equipment Associated with Heavy and/or Low Volatility Organic Liquids	N/A	N/A		Exempt Regulation 2-1-123.3.2

ATTACHMENT III

Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
1	A-Cell Electrostatic Precipitator (ESP)	3, 4, 5, 6, 10, 13, 50	6-302 (6-304 during S-3 & S-4 sootblowing)	Main Stack opacity CEM (1-520.5/.6)	20% opacity < 3 min/hr, except <40% during sootblowing
2	B-Cell Electrostatic Precipitator (ESP)	3, 4, 5, 6, 10, 13, 50	6-302 (6-304 during S-3 & S-4 sootblowing)	Main Stack opacity CEM (1-520.5/.6)	20% opacity < 3 min/hr, except <40% during sootblowing
3	C-Cell Electrostatic Precipitator (ESP)	3, 4, 5, 6, 10, 13, 50	6-302 (6-304 during S-3 & S-4 sootblowing)	Main Stack opacity CEM (1-520.5/.6)	20% opacity < 3 min/hr, except <40% during sootblowing
4	D-Cell Electrostatic Precipitator (ESP)	3, 4, 5, 6, 10, 13, 50	6-302 (6-304 during S-3 & S-4 sootblowing)	Main Stack opacity CEM (1-520.5/.6)	20% opacity < 3 min/hr, except <40% during sootblowing
5	E-Cell Electrostatic Precipitator (ESP)	3, 4, 5, 6, 10, 13, 50	6-302 (6-304 during S-3 & S-4 sootblowing)	Main Stack opacity CEM (1-520.5/.6)	20% opacity < 3 min/hr, except <40% during sootblowing
6	Baghouse on WWTP Activated Carbon Bin	11	6-301	Visible emissions from Carbon Bin	Ringelmann No. 1 < 3 min/hr
7	Baghouse on Util Lime Silo	12	6-301	Visible emissions from Lime Silo	Ringelmann No. 1 < 3 min/hr
8	Baghouse on Coke Silos	8	6-301	Visible emissions from Coke Silos	Ringelmann No. 1 < 3 min/hr
9	Venturi Scrubber/Cyclone Separator on Coke Silos	8	6-301	Visible emissions from Coke Silos	Ringelmann No. 1 < 3 min/hr
10	Baghouse on Coke Silos	8	6-301	Visible emissions from Coke Silos	Ringelmann No. 1 < 3 min/hr
11	Vapor Recovery Compressor on TK-1735	124	8-5-306	Tank pressure	95% recovery efficiency
12	Vapor Recovery Compressor on TK-1735	124	8-5-306	Tank pressure	95% recovery efficiency
13	Vapor Recovery Compressor Flare Gas Recovery Header	9, 133, 188, 189	6-301	Visible emissions North/South Flares	Ringelmann No. 1 < 3 min/hr
14	SGU-A Incinerator (use only for upsets/emergencies)	1	9-1-307	None	250 ppm SO2 at 0% O2 for < 1 hour
15	SGU-B Incinerator (use only for upsets/emergencies)	2	9-1-307	None	250 ppm SO2 at 0% O2 for < 1 hour
19	Vapor Recovery Compressor on TK-2801	55	8-5-306	Tank pressure	95% recovery efficiency

Abatement Devices

A-#	Description	Source(s)	Applicable	Operating	Limit or
20	Tertiary Cyclone on FCCU Regenerator	5, 13	6-302	Main Stack opacity CEM (1-520.5/.6)	20% opacity < 3 min/hr
22	Cyclone on FCCU Catalyst Railcar Unloading Hopper	10	6-302	Main Stack opacity CEM (1-520.5/.6)	20% opacity < 3 min/hr
23	Bag Filter on FCCU Catalyst Railcar Unloading System	10	6-301	Visible emissions from railcar unloading system	Ringelmann No. 1 < 3 min/hr
24	Tail Gas Hydrogenation Unit on SGU A/B Trains (Beavon Section), preparing tail gas for A-56	1, 2	9-1-307	TRS continuous monitor on A-56 Flexsorb Stack (BAAQMD Condition # 125 [2], BAAQMD Condition # 126 [2])	250 ppm SO2 at 0% O2 for < 1 hour
25	Thermal De-NOx System on F-401	23	COND ID# 14318 [1]	NOx/O2 CEM on F-401 stack (COND ID# 14318 [2])	40 ppm @ 3% O2, 8 hour average.
26	Vapor Recovery Compressor Flare Gas Recovery Header	9, 133, 188, 189	6-301	Visible emissions North/South Flares	Ringelmann No. 1 < 3 min/hr
27	Vent Disposal to SG-701 for FCCU Lube Oil Reservoir	159	6-301	Visible emissions on Lube Oil Reservoir vent	Ringelmann No. 1 < 3 min/hr
29	Carbon Adsorption Unit (DVRU) on Marine Loading Dock	129	8-44-301, COND ID# 1709 [3]	VOC continuous monitor on DVRU stack (COND ID# 1709 [5])	95% recovery efficiency, or 2 lb VOC/1,000 BBL loaded
36	Carbon Canisters on WWTP Upstream Diversion Tanks	193, 196, 205, 206	COND ID# 11880 (2), 60.112b(a)(3)(ii), 61.349(a)(2)(ii)	Mass emissions determined from flow meters and VOC continuous monitors on A-36/37 carbon beds (COND ID# 11880 [3], [7])	15 lb/day total NMHC from A-36 and A-37, averaged over one month, 95% recovery efficiency (NSPS Kb, NESHAPS FF)
37	Carbon Canisters on WWTP On-Site Equipment	131, 150, 194, 195, 197, 198, 199, 200	COND ID# 11879 (10), COND ID# 11882 (10), COND ID# 11888 (10), COND ID# 13319 (15), 61.349(a)(2)(ii)	Mass emissions determined from flow meters and VOC continuous monitors on A-36/37 carbon beds (COND ID# 11879 [11], [16], COND ID# 11882 [11], [16], COND ID# 11888 [11], [16], COND ID# 13319 [16], [18])	15 lb/day total NMHC from A-36 and A-37, averaged over one month, 95% recovery efficiency (NESHAPS FF))
38	Vapor Balance System on truck loading WWTP sludge from TK-2051	201	COND ID# 11883 (1)	Fugitive inspection	100 ppm leak standard
39	Vapor Balance System on truck loading WWTP sludge from D-2069	202	COND ID# 11884 (1)	Fugitive inspection	100 ppm leak standard
40	Vapor Recovery Compressor on Coker Feed Tanks	65, 69, 70, 71	None (exempt tanks)	None	None
41	Vapor Recovery Compressor on Coker Feed Tanks	65, 69, 70, 71	None (exempt tanks)	None	None
45	Selective Catalytic Reduction	220	COND ID#	NOx/O2 CEM on F-	10 ppm NOx,

Abatement Devices

A-#	Description	Source(s)	Applicable	Operating	Limit or
	for F-4460		10574 [23], 60.44b(a)(1)(i) BAAQMD 10-9 (NSPS Db)	4460 stack COND ID# 10574 [27], 60.48b(b)(1)	dry, 3% O2, 3-hr average, 0.1 lb/MMBTU (~84 ppmv NOx, 30-day average. NSPS Db, and 24-hr average. BAAQMD 10-9)
46	Vapor Recovery Compressor for TK-1741	227	8-5-306, COND ID# 10574 [42], 60.112b(a)(3)(ii)	Tank pressure	95% recovery efficiency (NSPS Kb)
47	Vapor Recovery Compressor for TK-1741	227	8-5-306, COND ID# 10574 [42], 60.112b(a)(3)(ii)	Tank pressure	95% recovery efficiency (NSPS Kb)
51	Selective Catalytic Reduction for GT-702	37, 45	9-9-301.3, COND ID# 16386 [1], [2]	NOx/O2 CEM on GT/SG-702 stack	9 ppmv NOx, dry, 15% O2, 3-hr average.
52	Thermal De-NOx System for F-101	3	9-10-304.1	NOx/O2 CEM on Main Stack (9-10-502)	150 ppm, dry, 3% O2 , daily average.
53	Thermal De-NOx System for F-102	4	9-10-304.1	NOx/O2 CEM on Main Stack (9-10-502)	150 ppm, dry, 3% O2 , daily average.
54	Baghouse on ESP fines vacuum conveying system	232	6-301, COND ID# 12727 (3)	Visible emissions from vacuum conveying system	Ringelmann No. 1 < 3 min/hr
55	Baghouse on ESP fines storage bin	233	6-301, COND ID# 12727 (4)	Visible emissions from storage bin	Ringelmann No. 1 < 3 min/hr
56	Tail Gas Cleanup Unit on SGU A/B Trains (Flexsorb Section)	1, 2	9-1-307	TRS continuous monitor on Flexsorb Stack (COND ID# 125 [2], COND ID# 126 [2])	250 ppm SO2 at 0% O2 for < 1 hour
57	Thermal Oxidizer for WWTP On-Site equipment	131, 150, 194, 195, 197, 198, 199, 200	COND ID# 11879 (3), (4), COND ID# 11882 (3), (4), COND ID# 11888 (3), (4), COND ID# 13319 (3), (4), 61.349(a)(2)(i)(A)	Continuous temperature monitor on oxidizer outlet (COND ID# 11879 [5], COND ID# 11882 [5], COND ID# 11888 [5], COND ID# 13319 [5]), 61.354(c)(1)	1400 F minimum outlet temperature to ensure >98.5 weight.% destruction efficiency, (>95% destruction efficiency for NESHAPS FF)
58	Selective Catalytic Reduction for SG-1032	237	COND ID# 16027 [12], 60.44b(a)(1)(i) BAAQMD 10-9 (NSPS Db)	NOx/O2 CEM on SG-1032 stack (COND ID# 16027 [16]), 60.48b(b)(1)	9 ppm NOx, dry, 3% O2, 3-hr average, 0.1 lb/MMBTU (~84 ppmv NOx, 30-day average. NSPS Db, and 24-hr average.

Abatement Devices

A-#	Description	Source(s)	Applicable	Operating	Limit or
					BAAQMD 10-9)
60	Selective Catalytic Reduction (SCR) System	1030, 1031	COND ID# 19177- (18a), (19b); NSPS Db: 60.44b(e) and 60.44b(l)(1); BAAQMD 10-4 (NSPS Db)	NOx CEM (COND# 19177-38; NSPS Db: 60.48b(b)(1); BAAQMD (NSPS Db)	Natural gas-Firing: 2.5 ppmv NOx, dry, 15% O2, 1 hr average. RFG/Natural gas-Firing: 2.5 ppmv NOx, dry, 15% O2, 3-hr average.
61	CO Oxidizing Catalyst System	1030, 1031	COND ID# 19177- (18b), (19d)	CO CEM (COND# 19177-38)	6 ppmv, dry, 15% O2, rolling 3-hr average
62	Selective Catalytic Reduction (SCR) System	1032, 1033	COND ID# 19177- (18a), (19b); NSPS Db: 60.44b(e) and 60.44b(l)(1); BAAQMD 10-4 (NSPS Db)	NOx CEM (COND# 19177-38; NSPS Db: 60.48b(b)(1); BAAQMD (NSPS Db)	Natural gas-Firing: 2.5 ppmv NOx, dry, 15% O2, 1 hr average. RFG/Natural gas-Firing: 2.5 ppmv NOx, dry, 15% O2, 3-hr average.
63	CO Oxidizing Catalyst System	1032, 1033	COND ID# 19177- (18b), (19d)	CO CEM (COND# 19177-38)	6 ppmv, dry, 15% O2, rolling 3-hr average
176	Baghouse on Brine Saturator Tank (future requirement only if dry salt vs. brine is added)	176	6-301, COND ID# 31411 [1]	Visible emissions from Carbon Bin	Ringelmann No. 1 < 3 min/hr

ATTACHMENT IV

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 – March 19 79)	New Source Review (Post March 1979)	Exempt
S-1	Claus - modified 3 stage; Burns Multi-fuel; (SULFUR PLANT 'A' TRAIN ACID GAS BURNER, F-1301A)	X			
S-2	Claus - modified 3 stage; Burns Multi-fuel; (SULFUR PLANT 'B' TRAIN ACID GAS BURNER, F-1301B)	X			
S-3	Industrial Boiler - Other, Carbon monoxide, Refinery make gas (RMG) (PROCESS FURNACE, CRUDE PREHEAT, F-101)	X			
S-4	Industrial Boiler - Other, Carbon monoxide, Refinery make gas (RMG) (PROCESS FURNACE, REDUCED CRUDE PREHEAT, F-102)	X			
S-5	Fluid cat cracker, FCC fresh feed, (FCCU REGENERATOR R-702)	X			
S-6	Fluid coking - general, Coker fresh feed, (COKER BURNER R-902)	X			
S-7	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, JET FUEL HYDROFINING, F-103)	X			
S-8	Fluid coking - transportation, Coker product, (Coke Silos Primary Scrubber, Cyc 1901)	X			
S-9	Blow-down system - w/o control, Crude oil (Vapor Recovery System)	X			
S-10	Loading - storage tank, Minerals -other/not spec, (CATALYST RAILCAR UNLOADING BAG FILTER 2701)	X			
S-11	Storage, Carbon black, (Activated Carbon Bin TK-2061)			X	
S-12	Storage - contained, Lime, (Lime Silo 2303)	X			
S-13	Process Heater/Furnace, Refinery make gas (RMG) (Direct Fired Air Heater, Aux. Burner, F-702)	X			

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
S-16	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (ACID GAS FLARE)	X			
S-17	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (BUTANE FLARE, ST-1701)	X			
S-18	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (SOUTH FLARE, ST-2101)	X			
S-19	Refinery Waste Gas Flare, Natural gas, Refinery make gas (RMG) (NORTH FLARE ST-2103)		X		
S-20	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, NAPTHA HYDROFINING, F-104)	X			
S-21	Furnace - Other, Refinery make gas (RMG) (Hydrogen Reformer Furnace, F-301)			X	
S-22	Furnace - Other, Refinery make gas (RMG) (Hydrogen Reformer Furnace, F-351)			X	
S-23	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, GAS OIL HYDROCRACKING, F-401)			X	
S-24	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, CAT FEED HYDROFINING, F-601)	X			
S-25	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, CAT FEED PREHEAT, F-701)	X			
S-26	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, HCN HYDROFINING, F-801, 33 MMBTU/hr)	X			
S-27	Waste gases; Other/not specified, Waste gases, Sodium hydroxide, 7 days/wk, 10 hrs/day, 52 wks/year (PFR REGENERATION FACILITIES)	X			
S-29	Cooling tower, Fresh water, Water - process,	X			

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	other/not spec, (COOLING TOWER)				
S-30	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR PREHEAT, F-2901)	X			
S-31	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR REHEAT, F-2902)	X			
S-32	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR REHEAT, F-2903)	X			
S-33	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, PFR REHEAT, F-2904)	X			
S-34	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, GAS HEATER, F-2905)	X			
S-35	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, GAS HEATER, F-2906)	X			
S-36	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-701)	X			
S-37	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-702)			X	
S-38	Industrial Boiler - Other, Refinery make gas (RMG) (STEAM GENERATOR, SG-703)	X			
S-39	Industrial Boiler - Other, Refinery make gas (RMG) (STEAM GENERATOR, SG-2901)	X			
S-40	Commercial/Institutional Boiler, Natural gas, Refinery make gas (RMG) (Utility Package Boiler, SG-2301, 218MMBTU/hr Horizontal force)			X	
S-41	Industrial Boiler - Other, Natural gas, Refinery make gas (RMG) (Steam Generator, SG-2302)	X			

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
S-42	Process Heater/Furnace, Refinery make gas (RMG) (PROCESS FURNACE, TREAT GAS PREHTR, F-1060)	X			
S-43	Industrial Turbine (PROCESS GAS TURBINE, GT-401)	X			
S-44	Industrial Turbine (PROCESS GAS TURBINE, GT-701)	X			
S-45	Industrial Turbine (PROCESS GAS TURBINE GT-702)	X			
S-46	Industrial Turbine (Process Gas Turbine, GT 1031 with steam injection)	X			
S-48	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-1031)	X			
S-50	Process Heater/Furnace, Refinery make gas (RMG) (AIR HEATER, CKR AUX. BURNER, F-901)	X			
S-51	HCU Total Feed Sandfilter, FIL 410A	X			
S-52	HCU Total Feed Sandfilter, FIL 410B	X			
S-55	Storage, Refinery sour waste water, (TK. 2801 SOUR WATER STORAGE)	X			
S-56	Industrial Boiler - Other, Refinery make gas (RMG) (WASTE HEAT BOILER, SG-401)	X			
S-57	Tank, External Floating Roof, GOLD, Crude oil, Welded, Pontoon (TK-1701, CRUDE OIL)	X			
S-58	Tank, External Floating Roof, GOLD, Crude oil, , Welded, Pontoon (TK-1702, CRUDE OIL)	X			
S-59	Tank, External Floating Roof, GOLD, Crude oil, Welded, Pontoon (TK-1703, CRUDE OIL)	X			
S-60	Tank, External Floating Roof, GOLD, Bunker C fuel oil, Crude oil, Welded, Pontoon (TK 1704, CRUDE OIL)	X			
S-61	Tank, External Floating Roof, GOLD,	X			

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	Crude oil, Welded, Pontoon (TK 1705, CRUDE OIL)				
S-62	Tank, External Floating Roof, GOLD, Crude oil, Welded, Pontoon (TK 1706, CRUDE OIL)	X			
S-63	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1711, GASOLINE COMP)	X			
S-64	Tank, External Floating Roof, GREEN, Gas oil, Welded, Pontoon (TK-1712, GAS OIL)	X			
S-65	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, (TK-1713, RESID)				X
S-66	Tank, External Floating Roof, Distillate oil, Welded, Pontoon (TK-1714, GAS OIL)	X			
S-67	Tank, External Floating Roof, GREEN, Waste oil, Welded, Pontoon (TK-1715, GAS OIL)	X			
S-68	Tank, External Floating Roof, GREEN, Distillate oil, Welded, Pontoon (TK-1716, GAS OIL)	X			
S-69	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, Gas oil, (TK-1717, RESID)				X
S-70	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, (TK-1718,RESID)				X
S-71	Tank, Vertical Fixed Roof, ALUMSP, Distillate oil, (TK-1719, RESID)				X
S-72	Tank, External Floating Roof, GREEN, Distillate oil, , Welded, Pontoon (TK-1720, GAS OIL)	X			
S-73	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1733, GASOLINE COMP)	X			
S-74	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1734, ALKYLATE)	X			
S-75	Tank, External Floating Roof, GREEN,	X			

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	Gasoline - unleaded, Welded, Pontoon (TK-1736, GASOLINE COMP)				
S-76	Tank, External Floating Roof, GREEN, Gasoline - unleaded, Welded, Pontoon (TK-1737, GASOLINE COMP)	X			
S-77	Tank, External Floating Roof, GOLD, Water/organics mixture, Welded, Pontoon (TK-1738, GASOLINE)	X			
S-78	Tank, External Floating Roof, GREEN, Alkylate, Welded, Pontoon (TK-1739, GASOLINE COMPONENT)	X			
S-79	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1751, GASOLINE)	X			
S-80	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1752, GASOLINE)	X			
S-81	Tank, External Floating Roof, GOLD, Water/organics mixture, Welded, Pontoon (TK-1753, GASOLINE)	X			
S-82	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1754, GASOLINE)	X			
S-83	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1755, GASOLINE)	X			
S-84	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1756, GASOLINE)	X			
S-85	Tank, External Floating Roof, GOLD, Water/organics mixture, Waste oil, Welded, Pontoon (TK-1757, GASOLINE)	X			
S-86	Tank, External Floating Roof, GOLD, Gasoline - unleaded, Welded, Pontoon (TK-1758, GASOLINE)	X			
S-87	Tank, Internal Floating Roof, WHITE,	X			

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	Gasoline - unleaded, Welded, Pan (TK-1759, GASOLINE)				
S-88	Tank, Internal Floating Roof, WHITE, Gasoline - unleaded, Welded, Pan (TK-1760, GASOLINE w/Primary and Secondary Seals)	X			
S-89	Tank, Internal Floating Roof, 6WHITE, Gasoline - unleaded, Welded, Pan (TK-1761, GASOLINE)	X			
S-90	Tank, Internal Floating Roof, WHITE, Gasoline - unleaded, Welded, Pan (TK-1762, GASOLINE w/liquid mounted primary and secondary seals)	X			
S-91	Tank, Internal Floating Roof, WHITE, Gasoline - unleaded, Welded, Pan (TK-1763, GASOLINE w/liquid mounted primary and secondary seals)	X			
S-92	Tank, External Floating Roof, GOLD, Fuel - jet 'A', Welded, Pontoon (TK-1771, JP4)	X			
S-93	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1772, JP5)				X
S-94	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1773, JP5)				X
S-95	Tank, Vertical Fixed Roof, GOLD, Distillate oil, (TK-1774, DIESEL)				X
S-96	Tank, Vertical Fixed Roof, GOLD, Distillate oil, (TK-1775, DIESEL)				X
S-97	Tank, External Floating Roof, GOLD, Fuel - jet 'A', Welded, Pontoon (TK-1776, JP4)	X			
S-98	Tank, Vertical Fixed Roof, WHITE, Distillate oil, (TK-1777, DIESEL)				X
S-99	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1778, ETFA)				X
S-100	Tank, Vertical Fixed Roof, GREEN, Fuel - jet 'A', (TK-1779, ETF-A)				X
S-101	Tank, Internal Floating Roof, GOLD,	X			

Valero Refinery Permitted and Exempt Sources

Each of the following sources has been placed into four categories: 1) constructed before July, 1972; 2) permitted between July, 1972 and March, 1979; 3) permitted after March, 1979; and 4) exempt.

S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	Water/organics mixture, Welded, Pan (TK-1791, SLOP w/ primary & secondary seals)				
S-103	Tank, Internal Floating Roof, GREEN, Water/organics mixture, Welded, Pan (TK-1793 SLOP)	X			
S-104	Tank, External Floating Roof, GOLD, Organic liquid -other/not spec, Welded, Pontoon (TK-1795, SLOP)	X			
S-105	Tank, Internal Floating Roof, GOLD, Organic liquid -other/not spec, Welded, Pontoon (TK-1796, WWEIGHT SLOP)	X			
S-106	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1797, SLOP)	X			
S-107	Tank, Vertical Fixed Roof, GOLD, Distillate oil, (TK-1798, DIESEL (FUEL OIL))				X
S-108	Tank, Pressure, GOLD, Organic liquid - other/not spec, (TK-1801, MMT)	X			
S-109	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1802, GASOLINE ANTI-OXIDANT)				X
S-110	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1803, HTA)	X			
S-111	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1804, HTA)	X			
S-112	Tank, Internal Floating Roof, GOLD, Organic liquid -other/not spec, Welded, Pan (TK-1805, TEL WASH)	X			
S-113	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1806, LUBRISOL)	X			
S-114	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1807, GASOLINE RED DYE)	X			
S-115	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1808, GASOLINE ORANGE DYE)	X			

Valero Refinery Permitted and Exempt Sources

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
S-116	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1809, PETROX)				X
S-117	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1810, CORROSION INHIBITOR)	X			
S-118	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1811, AO33)				X
S-119	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK-1812, ANTI-ICE)				X
S-120	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec,(TK-1813, METAL DEACT)	X			
S-121	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (D-807, POLYSULFIDE DRUM)				X
S-122	Tank, Vertical Fixed Roof, GOLD, Organic liquid -other/not spec, (TK 1814, ADDITIVES)	X			
S-123	Tank, Vertical Fixed Roof, GOLD, (TK-1794,) Diesel Red Dye				X
S-124	Tank, Pressure, GOLD, Paraffins - C3+, (TK-1735, PENTANES)	X			
S-127	Loading, Motor Vehicle, Motor Vehicle Refueling Station, 1 Loading Arms (Total) and 0 Loading Arms (Gasoline), Distillate oil, Bottom/Submerged fill (DIESEL DISPENSER, SERVICES BLDG AREA)				X
S-129	Loading, Ship, Ship, 7 Loading Arms (Total) and 3 Loading Arms (Gasoline), Multi-liquid, Unknown fill (Crude / Product Dock (renamed July 1995))			X	
S-131	Storage, Refinery sludge, (WASTE WATER SLUDGE DRUM D2069)	X			
S-132	Storage, Caustic waste, (Tk 2711, SPENT CAUSTICS)	X			

Valero Refinery Permitted and Exempt Sources

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
S-133	Storage, Acid - waste, (TK 2712, SPENT ACID)	X			
S-134	Storage, Caustic waste, (TK 2713, SPENT CAUSTIC SURGE)	X			
S-140	Tank, Vertical Fixed Roof, YELLOW, Alcohol - amine, (TK 1204, MEA INVENTORY)				X
S-142	Tank, Vertical Fixed Roof, YELLOW, Hydrocarbon – mixtures, other/not spec, (TK-103, Demulsifier Tank)				X
S-143	Tank, Vertical Fixed Roof, UN, Hydrocarbon - mixtures, other/not spec, (Corrosion Inhibitor Tank (EC1010A or equivalent)) TK-1034			X	
S-144	Tank, Pseudo fixed roof tank, SILVER, Hydrocarbon - mixtures, other/not spec, (TK 5013, Neutralizing Amine (Pipestill))				X
S-145	Tank, Vertical Fixed Roof, YELLOW, Alcohol - amine, (TK 1201, – MDEA ACCUMULATOR (20% SOLUTION))				X
S-150	Refinery sour waste water, (TK 2051, PRIMARY SLUDGE THICKENER)	X			
S-151	Wastewater storage - ponds, Refinery sour waste water, (Wastewater Equalization Pond)	X			
S-154	Refinery sour waste water (WASTE WATER BIOXIDATION UNIT 2053A)	X			
S-155	Refinery sour waste water, (WASTE WATER BIOXIDATION UNIT 2053B)	X			
S-156	Wastewater storage - ponds, (WASTE WATER RETENTION POND)	X			
S-157	Storage, Sulfur, (SULFUR STORAGE PIT AT SULFUR PLANTS)	X			
S-158	Tank, Vertical Fixed Roof, GOLD, Perchloroethylene (PERC), Carbon tetrachloride, 7 ft diameter (TK 2902,			X	

Valero Refinery Permitted and Exempt Sources

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	Carbon Tetrachloride)				
S-159	Other petroleum products; Other, Lube oil, (S.G.701 & G.T.701 Lube Oil Reservoir)	X			
S-160	Other petroleum products; Other, Lube oil, 7 days/wk, 24 hours/day, 2 wks/year (SEAL OIL SPARGER FOR COMPRESSOR C1031)	X			
S-161	Separator - oil/water, Waste water, (OILY WATER SEWER PIPELINE)	X			
S-163	Tank, External Floating Roof, GOLD, Waste oil, Gasoline - unleaded, Welded, Pontoon (TK 1732, GASOLINE COMPONENT)		X		
S-165	GDF, vehicle, non-retail-fee, balance (Phase 2), 2 tanks, 1 exempt nozzle, 1 gasoline nozzle (GDF #6764)	X			
S-167	Other petroleum products; Other, Oil - non-fuel, other/not spec, 6.6 tons/hour max, 7 days/wk, 24 hours/day, 50 wks/year (Seal Oil Sparger for Compressor C-401)	X			
S-168	Other petroleum products; Other, Paraffins - C3+, 1.7 N/A/hour max, 7 days/wk, 24 hours/day, 50 wks/year (SEAL OIL SPARGER FOR COMPRESSOR C-2901)	X			
S-169	Other process/not specified, Refinery waste water, 1.25 thou barrels/hour max, 7 days/wk, 24 hours/day, 52 wks/year (Third Bioxidation Unit)			X	
S-170	Tank, Vertical Fixed Roof, YELLOW, Hexane, Organic liquid -other/not spec, (TK 2317, Cationic Polymer (Utilities))			X	
S-171	Tank, Vertical Fixed Roof, YELLOW, Methyl alcohol, (Methanol Storage Tank)			X	
S-173	Process Heater/Furnace, Refinery make gas (RMG) (Coker Steam Superheat Furnace F-902)			X	

Valero Refinery Permitted and Exempt Sources

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
S-174	Material Handling/Miscellaneous, Lime, (TK 2321, Lime Slurry)			X	
S-175	Material Handling/Miscellaneous, Lime, (TK 2322, Lime Slurry)			X	
S-176	Material handling - other/not, Salt, (TK 2325, Brine Saturator)			X	
S-177	Solvent Cleaning, Solvent cleaning; (Solvent Cleaning Station-Dip Tank)			X	
S-180	Tank, Vertical Fixed Roof, WHITE, Hydrocarbon - mixtures, other/not spec, (Demulsifier Storage Tank, Breaxit 410)			X	
S-185	Tank, Vertical Fixed Roof, UN, Organic liquid -other/not spec, (Cationic Polymer Tank)				X
S-188	Separator - oil/water, Waste water, 1 days/wk, 24 hours/day, 52 wks/year (Oil/Water/Sediment Separator)			X	
S-189	Separator - oil/water, Waste water, (Induced Static Flotation Cell)			X	
S-192	Other petroleum products; Other, Waste water (TK 2052, Thickener)				X
S-193	Other petroleum products; Other, Waste water (TK 2027, Diversion)			X	
S-194	Separator - oil/water, Waste water, (Oil/Water/Sediment Separator #2006)			X	
S-195	Separator - oil/water, Waste water (Oil/Water/Sediment Separator #2056)			X	
S-196	Other petroleum products; Other, Waste water (TK 2077, Diversion)			X	
S-197	Separator - oil/water, Waste water (Induced Static Flotation Cell #2007)			X	
S-198	Separator - oil/water, Waste water (Induced Static Flotation Cell #2057)			X	
S-199	Tank, Vertical Fixed Roof, GOLD, Crude oil, (Oil Collection Drum D-2055)			X	
S-200	Other petroleum products; Other, Oil/water			X	

Valero Refinery Permitted and Exempt Sources

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	mixture, (Collection Drum D-2056)				
S-201	Loading, Truck, 1 Loading Arm (Total), Waste water, Bottom/Submerged fill (Vacuum Truck Loading from Thickener Tank (S-192))				X
S-202	Loading, Truck, 1 Loading Arm (Total), Crude oil, Bottom/Submerged fill (Vacuum Truck Loading from Tank (S-131))	X			
S-205	Other petroleum products; Other, Waste water (Surge Tank #2026)			X	
S-206	Other petroleum products; Other, Waste water (Surge Tank #2076)			X	
S-207	Tank, External Floating Roof, GOLD, Multi-liquid, Welded, Pontoon (Tk 1740, MTBE/Mogas)			X	
S-208	Other petroleum products; Other, Petroleum products - other/not spec, (Coker Feed Drum D-920)			X	
S-209	Loading, Truck, 5 Loading Arms (Total), Methyl alcohol, Bottom/Submerged fill (Methanol Railcar Unloading Facility) Ethanol, Mogas/component service			X	
S-210	Tank, External Floating Roof, - UN, Methyl alcohol, Welded (TK-1820, Methanol) Ethanol/Mogas component			X	
S-211	Other petroleum products; Other, Methyl tertiary-butyl ether, (MTBE Process Unit)			X	
S-214	Process drain - w/o controls, Waste water - (BIOX Aerator for Stripped Sour Water)				X
S-215	Process drain - w/o controls, Waste water - (BIOX Clarifier for Stripped Sour Water)				X
S-217	Tank, Vertical Fixed Roof, BLACK, Refinery sludge, (WWEIGHT Sludge Tank)				X
S-218	Tank, Vertical Fixed Roof, BLACK, Refinery sludge, (WWEIGHT Sludge Tank)				X
S-219	Tank, Vertical Fixed Roof, BLACK,				X

Valero Refinery Permitted and Exempt Sources

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	Refinery sludge, (WWEIGHT Sludge Tank)				
S-220	Combustion, Furnace - Other, Refinery make gas (RMG) (Hot Oil Furnace)			X	
S-227	Tank, Vertical Fixed Roof, GOLD, Multi-liquid, (C5/Heatcut/Mogas Component Storage Tank)			X	
S-232	Material handling - (ESP Fines Vacuum Conveying System)			X	
S-233	Storage, (ESP Fines Storage Bin)			X	
S-234	Fixed roof tank, 2kgal, demulsifier			X	
S-235	Fixed roof tank, 1kgal, demulsifier			X	
S-236	Product Sulfur Tank 1901-(new)			X	
S-237	BOILER-SG1032-(new)			X	
S-238	BIOX Aerator for stripped sour water				X
S-239	Crude/Product dock Sump (TK-1918)			**X**	
S-240	Emergency Diesel Engine for Break Tank Raw Water Pump, (P-2401C)	X			
S-241	Emergency Diesel Engine for Crude Field Firewater Pump, (P-2602)	X			
S-242	Emergency Diesel Engine for Dock Firewater Pump (P-2608B)	X			
S-243	Emergency Diesel Engine for Control Room Standby Power (DG-5101)			X	
S-1002	Hydrotreating/hydrofining, Diesel oil, (DIESEL HYDROFINER)	X			
S-1003	Hydrocracking, Distillate oil, 7 days/wk, 24 hours/day, 48 weeks/year (HYDROCRACKER)	X			
S-1004	Catalytic reforming, Reformate, (CATALYTIC REFORMER-(PFR))			**X**	
S-1005	Hydrotreating/hydrofining, Gas oil, (CAT. FEED HYDROFINER)	X			
S-1006	Distillation - crude, Crude oil, (CRUDE UNIT WITH 55E6 BTU/hour HEAT EXCHANGER)			X	

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
S-1007	Alkylation, Alkylate, (ALKYLATION UNIT)			X	
S-1008	Hydrotreating/hydrofining, Gasoline - leaded, Gasoline - unleaded, (GASOLINE HYDROFINER)	X			
S-1009	Hydrotreating/hydrofining, Fuel - jet 'A', (JET FUEL HYDROFINER)	X			
S-1010	Hydrogen manufacturing, Refinery make gas (RMG), 5900000 million cubic feet/hour max, (HYDROGEN PLANT)	X			
S-1011	Hydrotreating/hydrofining, Refinery feedstock -other/not spec, (HEAVY CAT NAPHTHA HYDROFINER)	X			
S-1012	Feedstock; Other/not specified, Petroleum products -other/not spec, (Dimersol Unit)			X	
S-1013	Tank, Pressure, YELLOW, Hexane, Organic liquid -other/not spec, (Dimersol Unit - (D2720) EADC 10.0 kgal Tank)			X	
S-1014	Feedstock; Other/not specified, (Cracked Light Ends Process Unit)	X			
S-1019	Other petroleum products; Other (Laboratory Sample Waste Sinks)				X
S-1020	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (Heartcut Tower)			X	
S-1021	Hydrotreating/hydrofining, Refinery feedstock -other/not spec, 100 thou barrels/day max, (Heartcut Saturation Unit)			X	
S-1022	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (Cat. Reformer T-90 Tower)			X	
S-1023	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (Cat. Naphtha T-90 Tower)			X	
S-1024	Hydrotreating/hydrofining, Refinery feedstock -other/not spec, 24 thou barrels/			X	

Valero Refinery Permitted and Exempt Sources

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	day max, (Light Cat. Naphtha Hydrotreater)				
S-1026	Distillation - other, Refinery feedstock - other/not spec, 100 thou barrels/day max, (C5/C6 Splitter)			X	
S-1027	Pentane Rail Car Loading Rack			X	
S-1030	Combustion Turbine Generator (Refinery Fuel Gas and/or Natural Gas Fired)			X	
S-1031	Heat Recovery Steam Generator			X	
S-1032	Combustion Turbine Generator (Refinery Fuel Gas and/or Natural Gas Fired)			X	
S-1033	Heat Recovery Steam Generator			X	
S-32000	Combustion, Minor Sources, Natural gas (MINOR SOURCES)				X
S-32100	Refinery vacuum products (Fugitive Sources - Vacuum Producing Systems)				X
S-32101	Refinery process vessels (Fugitive Sources – Process Vessel Depressurization)				X
S-32102	Refinery valves/flanges (Fugitive Sources – Valves and Flanges)				X
S-32103	Refinery pumps/compressors (Fugitive Sources - Pumps & Compressor Seals)				X
S-32104	Refinery pressure relief valve (Fugitive Sources - Pressure Relief Valves)				X
S-32105	Refinery process drains (Fugitive Sources – Process Drains)				X
S-32110	Refinery flaring/blowdown (Process Gas (Combustion) Emissions from Flares and Blowdown Systems)				X
	Cogeneration plant cooling tower				X
S-230	TK-4460 Dowtherm storage tank				X
S-231	Aqueous ammonia storage drum				X
	TK-1730 flushing oil tank				X
	TK-1721 LPG sphere				X
	TK-1722 LPG sphere				X
	TK-1723 LPG sphere				X
	TK-1724 LPG sphere				X

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S-#	Description	Grandfathered Source (Pre July 1972)	Grandfathered Source (July 1972 –	New Source Review (Post March 1979)	Exempt
	TK-1725 LPG sphere				X
	TK-1726 LPG tank				X
	D-3905 A/B anhydrous ammonia drums				X
	LPG truck loading rack				X
	Octane test engines				X
	Post-BIOX selenium removal facilities				X
	TK-2700 fresh caustic tank				X
	TK-2710 fresh acid tank				X
	Nitrogen plant				X
	Assorted organic liquid storage vessels and containers less than 260 gallons				X
	Assorted tanks, vessels, and pumping equipment associated with aqueous solutions				X
	Assorted containers, tanks, reservoirs, and loading equipment associated with heavy and/or low volatility organic liquids				X